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ABSTRACT
The study was designed to provide a base for mental health manpower planning. The first and principal section of Volume I is an annotated bibliography of applicable articles and books. An index lists items included in the bibliography according to subject and profession. A discussion of two conceptual approaches to alleviating the manpower shortage, and a section listing suggestions cited frequently in the literature are included. A final section includes four appendixes (1) a list of organizations and individuals knowledgeable about manpower, (2) a bibliography of peripheral sources, (3) a partial listing of work currently being done in the field of mental health manpower, and (4) the analysis of a questionnaire designed to discover psychiatrists' conceptions of solutions to the shortage. Volume II includes (1) six papers representing a review of literature in the manpower field, (2) seven original papers dealing with particular aspects of the problem, (3) comments on the papers by manpower and mental health experts, (4) results of a survey of the views of training directors on psychiatric education, and a paper presenting suggestions for personnel recruitment and utilization, (5) results of the survey of psychiatric opinion, and (6) a selective summary of current research. (JK)

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MENTAL HEALTH MANPOWER: AN ANNOTATED BIBLIOGRAPHY AND COMMENTARY

November, 1965

Prepared by
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CALIFORNIA MEDICAL ASSOCIATION

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CALIFORNIA MEDICAL EDUCATION AND RESEARCH FOUNDATION

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PREFACE

This report is the first phase of a two part study designed to provide a base for mental health manpower planning. A major component is an annotated bibliography of work reported in the mental health field and in related scientific, professional, and technical fields. The bibliography, prepared by the Bureau of Research and Planning, is thorough and comprehensive. With the annotation, those undertaking mental health manpower planning or research will have a readily available resource for considering the relevant literature and current developments.

There is additional material in this report which, when coupled with the bibliography and the report on Phase II to be published next year, will provide the best current information, thinking, and projections respecting mental health manpower.

Limited data concerning numbers of mental health personnel currently employed or needed will be included. This aspect is part of the important studies being conducted by the Mental Health Manpower Study Unit of the National Institute of Mental Health.

Both phases of this study were supported by a mental health planning grant from the National Institute of Mental Health.

Ralph Littlestone, Chief
Office of Planning
California Department of Mental Hygiene

FOREWORD

Under Public Law 88-156, which granted federal funds to the various states to intensify their efforts in planning for mental health, the California State Department of Mental Hygiene contracted with the California Medical Education and Research Foundation to perform the following services:

> "To conduct a survey and interpretive analysis of available literature in the mental health and other professional and scientific fields concerning methods, procedures and techniques for relieving the manpower shortage in the mental health field. This survey and analysis is to be in the form of an annotated bibliography plus a report of findings of a mail survey of psychiatric medical personnel."

The California Medical Education and Research Foundation was chosen to be the agent of this study because its close ties with the medical profession put it in a favorable position to conduct work such as that described above. The CMERF was established by the California Medical Association in 1961 as a nonprofit foundation "for the purpose of developing and conducting an extensive program of research into the social and economic aspects of medical care."

This bibliography is presented as a first and preliminary step in the examination of possible solutions to the current mental health manpower shortages. The problem is a severe one, as most of those in the mental health professions are aware. There are insufficient numbers of persons in each of the "core" mental health fields of psychiatry, clinical psychology, psychiatric social work, and psychiatric nursing. In addition there are inequities of distribution, as in all the service professions. The shortage in public mental health personnel is far more extreme than that in private practice, and the shortage in rural areas is more acute than that in urban areas. The problem of the mental health manpower shortage is an extremely complex one, taking the researcher through a maze of specialized knowledge about medical education, graduate education, psychiatric techniques, public mental health programs, and many other areas.

The bibliography hopes to accomplish only a part of the goal stated above: That is, to point to some of the published work discussing methods which have been tried in attempts to alleviate manpower shortages. The appendices at the end of this publication have been used in order to delve more deeply into several aspects of the problem and to broaden the scope of consideration.

The Bureau of Research and Planning, which was designated by the California Medical Education and Research Foundation to prepare the bibliography, finds it impossible to list all the persons to whom it owes a large debt of gratitude for aid in this project. Some persons who should be mentioned specifically in this connection are: Ralph Littlestone, Chief, Office of Planning, California State Department of Mental Hygiene, and Eliot Rodnick, Ph.D., Professor of Psychology, University of California at Los Angeles, who worked very closely with us on this project; Daniel Blain, M.D., Chairman of the Commission on Psychiatric Manpower of the American Psychiatric Association, who helped by making available to us a list of the APA's bibliographical resources on psychiatric manpower; James Dent, Ph.D., Research Psychologist, Biometrics Branch, National Institute of Mental Health, who has shared with us some of the similar work that organization has been doing; William F. Sheeley, M.D., who allowed us to see his list of materials on use of the private practitioner in mental hygiene; and many others.

A number of organizations have helped in many ways. Some have sent us extensive bibliographies, others have suggested persons with whom we should communicate for further information. A number of individuals both inside and outside the mental health professions have contributed generously of their time and efforts. Although we cannot name them here, some are included in the list of organizations contained in Appendix I.

The Foundation is grateful to Samuel R. Sherman, M.D., and Stuart C. Knox, M.D., of the California Medical Association, who served as consultants to this project. Special thanks are also due to Alexander Simon, M.D., Malcolm Stinson, Ph.D., Emmy Lanning Shockley, R.N., and Robert Alway, M.D.,members of the Advisory Committee to the study, whose suggestions and advice were most helpful.

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SUMMARY

This annotated bibliography is the product of a mental health manpower project financed by the California State Department of Mental Hygiene under a federal mental health planning grant. It is an interpretive analysis of literature in the mental health and other professional and scientific fields concerning methods and techniques for relieving manpower shortages, compiled in the hope that if such methods could be identified and assessed for applicability to the mental health scene, some approaches not now in general use could be made available for consideration by educational institutions and programs employing mental health personnel. The focus of this work is not on mental health per se, but on methods which have proved successful in solving manpower problems in this and related fields.

The report is composed of five main sections: 1) the annotated bibliography, 2) the index, 3) a discussion of conceptual approaches, 4) a listing of suggestions cited frequently in the literature, and 5) the appendices. Following is a brief summary of the contents of each section: 1) Bibliography: The annotated bibliography consists of precis of applicable articles and books dealing with education, recruitment, financing, utilization, and reorganization of manpower in all fields. This bibliography is arranged alphabetically, by author. The annotation for each publication in the bibliography contains an identification of the professional field or fields discussed in the publication, and a brief summary of the publication.

2) Index: The bibliography is indexed according to both the subject of the article and the profession dealt with.

3) Discussion of Conceptual Approaches: Following the index, a "Discussion of Conceptual Approaches" reviews the two major approaches in alleviating the manpower shortage---the "internal" (redistribution of available manpower) and the "external" (use of the unutilized portion of the manpower pool, such as women, the handicapped, and under-educated). The internal approach results in the raiding of professionals from other fields, thus intensifying shortages in areas where they already exist. The external approach would not change the relative proportions of professionals in each field, as the increase in numbers would probably be distributed over all the professions; it would, however, be a financial drain, as each profession would recruit personnel for all fields. Proponents of internal methods suggest recruitment drives, directive counseling, changes in public image, reorganization of the profession, apportioning psychotherapists' duties to social scientists, and training of non-psychiatric physicians in psychotherapy. Those who support external methods favor scholarships, general student counseling for higher education, and the use of ancillary personnel.

4) Suggestions Cited Frequently in the Literature: The literature surveyed in the bibliography contains suggestions and recommendations for future manpower development, as well as descriptions of techniques which have been employed in the past. A listing of the suggestions which have been most frequently cited in the literature follows the Discussion of Conceptual Approaches. A partial list of those which are most typical is included below. The reader is cautioned that the recommendations are not necessarily listed in their order of importance with respect to specific professional

groups or fields of interest. In addition, many suggestions overlap categories other than those in which they are listed. The suggestions most frequently cited are:

a) Education[1]

1. Introduce accelerated classes for gifted youth.
2. Establish corrective classes for under-achievers.
3. Develop more clinical training facilities.
4. Secure greater cooperation among professional groups concerned with the overall manpower shortage.
5. Create a new profession, such as Doctorate of Medical Psychology.
6. Re-establish nurses' training schools in psychiatric hospitals.
7. Secure laboratory or other training jobs for high-school students during the summer.
8. Create a psychiatrically-oriented program for physicians in all specialities of practice.
9. Initiate special courses for specific groups of the population who have either not had specific training, or whose previous education can be supplemented to equip them for jobs.

b) Recruitment

1. Increase the available manpower pools by recruiting and training women, minority groups, and others who either have not had the advantages of an education or whose previous educational level of attainment can be augmented.
2. Increase the manpower pool of under-utilized manpower resources by recruiting and training the handicapped, retired persons, and youths who have discontinued their education.
3. Establish science fairs, talent searches, scholarships, and science camps.
4. Promote conferences with science teachers, researchers, and counselors.

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[1] General rather than specialized education.

5. Utilize special brochures, telephone calls, television, radio, panel discussions, and lectures.

c) Finance

1. Make salaries of teachers attractive and competitive in order to recruit them into fields in which they are most needed.

2. Provide scholarships and funds for educational support, both for personnel and facilities, and develop other methods of personal financing for education.

3. Promote prepayment plans for students with long-term educational objectives.

4. Improve channels for the allocation of funds.

d) Utilization

1. Structure opportunities for individuals to transfer or utilize capabilities and skills to new functions.

2. Stimulate professional and ancillary workers to play broader supportive roles.

3. Utilize more effectively the services of older and retired persons.

4. Encourage women over forty to return to their professions or to retrain for those in which shortages exist.

5. Utilize persons at the highest level of their skill.

6. Identify future changes in the profession at an early date.

5) Appendices: There are four appendices. These have been added in order to supplement the information contained in the bibliography. It is hoped that the appendices and the bibliography taken as a whole will furnish the mental health planner with sufficient information to stimulate creative approaches to the alleviation of the mental health manpower shortage.

Appendix I contains a list of organizations and individuals who are active in the manpower field.

Appendix II contains an unannotated bibliography of sources which the authors believe to be important, but which deal only tangentially with the central issues. This bibliography is arranged alphabetically by author. Included are a number of publications dealing with the psychology of occupational choice, some studies conducted to discover the variables determining the popularity of certain technical fields, and some of the work on determining the extent of the manpower shortage, as well as some further sources pertaining directly to the mental health field. In general, the authors have included in this section articles which seem important enough to merit the attention of persons who intend to work on the problem of manpower shortages, or which will point out some of the actualities of the situation in the mental health field, but which are far enough afield, or so abstract, that it was felt that they should not be included in the annotated bibliography.

Appendix III is a partial listing of work currently being done in this field. It is by no means complete and, in every case possible, the source of information has been cited so that the investigator may be aware of those persons involved in the field of manpower. The listing includes names and addresses wherever possible for those who wish to contact the researchers themselves.

Appendix IV is an analysis of two questions from a questionnaire which was sent to 740 California psychiatrists early in 1964. The complete questionnaire and analysis will be presented in a later report. It is hoped that this digest of the survey information will give the reader a feeling for the climate of opinion that exists and will furnish a basis upon which it may be decided what is and what is not a possible solution.

The purpose of the questionnaire was to solicit opinions from professionals in the field on proposed solutions to the mental health manpower shortage. Three hundred and eighty questionnaires were coded for the two questions discussed: "Where do you think the causes of the current mental health manpower shortage lie?" and "Without considering the practical difficulties, how would you propose to alleviate current mental health manpower shortages?"

Since this is an open-end questionnaire, it is not implied that because a certain percentage of the psychiatrists support a proposal, the remainder do not. In answering the first question many psychiatrists discuss where the shortage lies. About 14% of psychiatrists who receive fee-for-service and part-time salaries, private practitioners, and teachers believe the shortage is only in institutions while 7% of the psychiatrists on hospital staffs state this is true. It is also claimed by about 10% of the psychiatrists that the shortage exists at the professional level only (the percentage of psychiatrists in private practice who hold this opinion is somewhat higher, and they often mention that the problem lies in distribution rather than in actual shortage).

In answer to the second question, proposals fall into two main areas: 1) recruitment, education and training, and 2) utilization and reorganization. Changes in education and training are solutions proposed by about 10%, especially among medical school faculties and preventive-psychiatry professionals. Very few psychiatrists believe that the expense of taining is an important variable, though 19% of the fee-for-service psychiatrists hold that the training period is too long. The five responses most frequently mentioned under lack of recruitment incentives and job attractiveness are ranked here in order of importance: 1) poor salaries, 2) poor public image, 3) poor working conditions, 4) lack of prestige among specialties, and 5) unattractiveness of the mental health fields. The other proposals in recruitment and education are;1) recruitment of more students by teachers in departments of psychiatry,and 2) more financial aid to students in the form of scholarships. Nearly 10% of the respondents suggest reorganization of existing personnel. Other suggestions are: more efficient utilization of ancillary personnel; better cooperation among personnel categories in the mental health fields; group and short-term therapy; increased emphasis on community services; and further development of preventive psychiatry. Five tables give a detailed breakdown of responses and types of practice of the psychiatrists who responded.

INTRODUCTION

This bibliography attempts to bring together the most significant ideas of persons in various fields on the alleviation of manpower shortages. Our attempt has not been to compile all the solutions that have been tried or proposed, but rather to assemble those ideas which seemed likely to inspire the creative reader to new ideas.

In its applicability, the bibliography focuses on the four "core" professions of psychiatry, clinical psychology, psychiatric social work, and psychiatric nursing. It rarely deals, however, in the specifics of those fields, but rather attempts to include publications dealing with general issues in many fields. We have attempted to keep the bibliography as non-technical as feasible.

To cite an example of technical material which was not included: It is claimed that the phenothiazines can help limit hospitalization and aid in keeping as outpatients persons who would otherwise have been hospitalized.[1] Thus, phenothiazines might be invaluable tools in maximizing the utilization of the psychiatrist's or the nurse's time insofar as custodial work can be minimized. Nevertheless, we have excluded works on phenothiazines, since chemotherapy and related technological advances will be discussed in a later report.

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[1] Index Medicus provides 48 references concerning the use of phenothiazines in therapy in its 1963 edition. Several investigators have performed double-blind experiments in which it was observed that schizophrenics being treated with phenothiazines spent less time hospitalized than those not receiving this therapy.

On the other hand, we have attempted to include material which we felt was transferable to the mental health professions. One example of material which did not seem to be transferable to the mental health field was the large number of articles on the use of technicians in the engineering fields. The concept of using sub-professionals to take over some of the professional's work is, perhaps, a good one, but most of the articles dealing with engineering technicians are far too specific to be applicable to the special requirements of the mental health fields.

A number of persons have proposed that psychological and biological research provides the answer to the mental health manpower shortage. Although this may be true, we have aimed elsewhere. We are less concerned with presenting solutions to specific manpower problems than with presenting ideas which may aid the reader in dealing with his individual manpower problems either in a microcosmic situation (as in the case of an outpatient clinic) or in a macrocosmic one (as in the case of the budget calculations of a State Director of Planning).

Throughout this work we have tried to keep the following principles in mind: (1) in order to attain a solution to the mental health manpower shortage it will be necessary to keep minds open to new possibilities and not to be bound by the traditional structures of the field, and (2) the emphasis of this work is on _manpower_ in the mental health field, not on mental health _per se_.

Thus it is clear that, despite focus on the mental health field, this bibliography is of more general applicability than its immediate purpose would suggest. We hope that any person interested in the general problems of manpower shortages and possible solutions to these needs will find this volume useful. We have tried to incorporate unity as well as utility into the design of this publication, so that the maximum information may be imparted in a minimum amount of space.

After almost a year of work on this project, we feel somewhat humbled. The literature dealing directly with proposals to alleviate manpower shortages is vast. The number of publications discussing issues central to the problem of alleviating manpower shortages is immense. We had originally hoped to give the reader a complete listing of the materials relevant to the issue. However, in working on the project, we were forced to limit our goal to an overview of how professions have dealt with manpower shortages, and to possible avenues of approach.

Even more surprising than the amount of the material which is important in this field is the breadth of knowledge needed in order to comprehend the intricacies of manpower shortages. In order to deal with factors such as occupational choice, job satisfaction, or "human investment", one must have some specialized knowledge in the fields of psychology, sociology, and economics, among other disciplines in the social and behavioral sciences.

The limitations of this bibliography are these: (1) We have deemphasized those publications which deal with germane issues in a way so general that they have little meaning for the mental health fields. The literature on the financing of education is of such a nature. Most of it consists of a history of the financing of higher education in the United States followed by an analysis of the various means of financing education.

We have included a number of these, but since the presentations are somewhat repetitive, we have not included as many as we might have.

(2) We have over-represented the literature on utilization and recruitment. There are several reasons for this. One is that these two aspects of manpower are general enough that investigators of manpower shortages in any profession, whether it be librarianship or oceanography, must come to grips with these two problems. Another reason is a corollary of the first: these two issues are universal enough that many ideas are easily transferable to the mental health fields.

(3) We have excluded articles or books which we found repetitious. Our selections among two sources which were essentially identical in content were made not on the basis of originality but only on the basis of clarity and conciseness of statement with no regard to who was the original progenitor of the ideas.

(4) Finally, there have been some sources which were not available to us. Many of these are to be included in the supplementary bibliography which we propose to publish at a later date.

It may be that in the maze of literature on this subject we have missed certain sources which the reader might have considered important. We readily grant the possibility that, in a literature as vast as this, encompassing as many fields as it does, it is possible that some important sources have slipped by. On the other hand, it may be that, for one reason or another, we decided not to include a study which we had seen. If the reader discovers any significant omissions, we would be pleased if he would so inform us, in order that we might include them in the supplement.

If this bibliography or one of its appendices should inspire any original thoughts, then we will be well pleased, for originality is a rare commodity, and one which a major problem such as this demands.

BIBLIOGRAPHY

BIBLIOGRAPHY

(1)

Abelson, Philip H.
"Manpower or Mind Power"
Science
Vol. 139, No. 3550
January 1963, p 79

Field: Science
Application: EDUCATION

The author criticizes the President's Science Advisory Committee board for being too concerned with the quantity of fellowships and subsidies rather than the quality of Ph. D.'s. He presents the opinion that geniuses often mature better through hardship. "Most individuals seem to need a hardening experience to bring out their best . . . . The Great Depression was a valuable experience for some scientists who were in their formative years at the time." The author does suggest that implementation of the report is apt to produce a fine crop of technologists.

(2)

Ableson, Philip H.
"Revitalizing the Mature Scientist"
Science
Vol. 141, No. 3581
August 16, 1963, p 597

Field: Science
Application: EDUCATION, RECRUITMENT

Emphasis is placed on potential scientists through science fairs, talent searches, scholarships, and special brochures. Consequently, insufficient attention has been paid to extending the period of creative capacity of the mature scientist who often has diminished motivation and knowledge obsolescence. He creates a dependent following and rather than change his field of endeavor after his research is solved, he takes on more administrative responsibilities. Perhaps he could take a "comprehensive refresher course followed by a dignified apprenticeship" to learn about other scientific fields and stimulate his creativity.

(3)

Adam, R. S.
"Gifted Students in American Universities"
Australian Journal of Higher Education
Vol. 1, No. 2
November 1962, pp 61-65

Field: All Professional Fields
Application: EDUCATION

The author discusses various plans for gifted students in America. Among them are:

1. acceleration of the brightest students,
2. advanced placement with no need to repeat high school work in college,
3. implementation of a successful 1951 program wherein students having ten rather than twelve years of education may be admitted to colleges.

(4)

Annual Report
Administrator of Veterans' Affairs
1962, 336 pages

Field: All Professional Fields
Application: ADMINISTRATION,
EDUCATION,
RECRUITMENT

This report stimulated new ideas in administration, such as seminars, lectures, conference programs, and individual special training. It mentioned training aids, such as guidebooks, slides, motion pictures, and a leader's guide. In the area of recruitment it mentioned visits to universities and professional schools and publicity techniques such as advertising and exhibits.

(5)

Annual Report
Administrator of Veterans' Affairs
1963, 366 pages

Field: All Professional Fields
Application: RECRUITMENT

This report says essentially the same thing as the 1962 Report, but it does give a few more actions being taken in collaboration with the Civil Service Commission, such as:

1. TV spot announcements,
2. special pamphlets,
3. films about public service,
4. pamphlets for those interested in V.A. careers.

(6)

Albee, George W., Ph.D.
"The Manpower Crisis in Mental Health"
American Journal of Public Health
Vol. 50, No. 12
December 1960, pp 1895-1900

Field: Mental Health
Application: DISTRIBUTION,
EDUCATION,
UTILIZATION

The need for more professional personnel in the mental health fields is urgent, but the author holds out little hope of satisfying the need. He argues that the basis for the shortage is the large numbers of professionals needed in every field and the declining quality of American education. He also blames problems of distribution and utilization but feels that these are secondary to the main issue.

He holds out little hope except for theoretical breakthroughs which might enable us to prevent mental illness.

(7)

Albee, George W., Ph.D.
Mental Health Manpower Trends
Basic Books, Inc., New York
1959, 361 pages

Field: Mental Health
Application: EDUCATION,
RECRUITMENT

Dr. Albee pessimistically concludes that sufficient professional personnel to eliminate the quantitative deficiencies in mental health care will never become available if the present population trend continues without a commensurate increase in the recruitment and training in this field. The only possibility of changing this outlook requires (1) a great change in our social attitudes, (2) a massive national effort in all areas of education, including large increases in the number of mental health personnel, or (3) a sharp breakthrough in mental health research.

(8)

Alberg, Bernard L.
"Vocational Exploration in Science"
Science Teacher
Vol. 26, No. 6,
October 1959, pp 413-418

Field: Science
Application: CAREER CHOICE, EDUCATION

Suggested vocational aids are:
1. more planning and guidance,
2. occupational information unit in the science course with the guidance counselor assisting the teacher in preparing the unit,
3. films and experiments,
4. career information available in the school library.

(9)

Alexander, Florence; Zix, Lorraine
"Streamlining Nurses' Reports"
Hospitals, Journal of the American Hospital Association
Vol. 37,
January 1, 1963, pp 48-49

Field: Nursing
Application: UTILIZATION

"The tape recording of patient reports by nursing supervisors promises to be a time saver on the floors and to permit more of the staff to hear the report. It is not uncommon now for the head nurse to take a report from the night nurse while her staff prepares patients for the morning routine. Later, the head nurse may present a condensed report to the staff or to the team leaders. She or a team leader may repeat part of the report again for an instructor and students or . . . (for a special duty nurse.) With the tape recorder, two important possibilities become evident:
1. the nurse in charge of any shift does not have to repeat the report at any time,
2. the full patient report, . . . (or segment thereof), is available for all the staff to hear."

(10)

The American Assembly
Columbia University
The Federal Government and Higher Education
Englewood Cliffs, New Jersey
Prentice-Hall, Inc., (Douglas Miknight, Ed.) 1960, 203 pages

Field: All Professional Fields
Application: EDUCATION, FINANCING

This book deals with the problems of the role of the Federal Government in higher education. This involvement is currently centered around national defense, federal training and grants, and federal sponsorship of university research. Money for aid to higher education comes from four main sources:
1. government,
2. students,
3. gifts,
4. endowments.

Because fees are increasing, many potential students are unable to attend school, wasting talented resources. Scholarships present at least two major difficulties: they reflect financial need rather than brilliance, and they involve a bureaucracy which increases expenses. And even with subsidies, many potential graduate students are unwilling to forego a steady income in favor of further study. The system of voluntary gifts has its weaknesses also, in that gifts may be unstable, favor wealthy schools, and are often restricted.

Because other sources do propose problems, because national security and economic property are connected with education and because of the impending tidal wave of students, it is clear that government must take an increasingly important role. The difficulties come in deciding whether this role lies in the province of State or Federal Government. Although there are numerous stumbling blocks to federal participation, including fear of federal control, federal aid is legal under the Welfare Clause. And it is clear that partial federal participation is no longer satisfactory.

The best plan seems to be to give to the schools directly.

(11)

American Association for the Advancement of Science, Cooperative Committee on the Teaching of Science and Mathematics
"Improving Science Teaching"
Science
Vol. 122, No. 3160
July 22, 1955, pp 145-148

Field: All Professional Fields
Application: EDUCATION,
RECRUITMENT,
UTILIZATION

Some of the factors responsible for the teacher shortage are:
1. an increase in high school enrollment,
2. low teacher salaries,
3. scientists' attitudes about taking time to teach in high school.

Some proposed aids to better educate the students are:
1. assurance that teachers know their subject,
2. institution of accelerated program for undergraduates who wish to qualify early,
3. availability of additional courses for those who may need a better background and have the desire to learn.

Recruitment ideas were also discussed. They are:
1. preparation and dissemination of appropriate guidance materials on mathematics and science teaching,
2. promotion of vocational guidance programs through assemblies, radio, and television,
3. utilization of scientists as counselors,
4. encouragement of high school science academies.

Some suggestions to attract and retain teachers are:
1. offering of higher salaries,
2. awards for distinguished teachers,
3. upgrading of the quality of teaching through the employment of consultants to teachers.

(12)

Amos, William E.
"A Study of the Occupational Awareness of a Selected Group of Ninth Grade Negro Students"
Journal of Negro Education
Vol. 29, No. 4
Fall 1960, pp 500-503

Field: All Professional Fields
Application: CAREER CHOICE,
RECRUITMENT

In a survey of awareness of job opportunities among Negro students it was found that:
1. girls are more aware of the occupational situation as pertaining to their own race than are boys,
2. there is more awareness of the opportunities for their race nationally than locally,
3. few students have a realistic idea of the number of Negroes employed within any specified occupation.

(13)

Armsby, H. H.
"Future Scientists of America Foundation"
Engineering Education
Vol. 60, 1953, pp 159-164

Field: Science
Application: EDUCATION, REORGANIZATION

The purpose of the Future Scientists of America Foundation is to:
1. identify students with ability,
2. give career information and instruction,
3. coordinate and strengthen high school curricula,
4. reward scientific achievements of high school students and teachers,
5. conduct special training programs for high school teachers,
6. promote research problems.

(14)

Baer, Walter H.
"The Training of Attendants, Psychiatric Aides, and Psychiatric Technicians"
American Journal of Psychiatry
Vol. 109, No. 4
October 1952, pp 291-295

Field: Mental Health
Application: ANCILLARY PERSONNEL, RECRUITMENT, REORGANIZATION

To increase the number of trained attendants, psychiatric aides, and technicians, the following provisions are important:
1. better recruitment,
2. improved working conditions,
3. opportunities for advanced training,
4. job satisfaction,
5. re-establishment of nurses' training schools in psychiatric hospitals (The new trends in nursing education closed the doors to the three-year psychiatric training programs.),
6. the emphasizing of advanced programs for attendants, aides, and technicians.

(15)

Barclay, G. N.
"Keeping Trainee Personnel at the Bedside"
Hospitals, Journal of the American Hospital Association
Vol. 37, April 16, 1963, pp 64-68

Field: Health
Application: ANCILLARY PERSONNEL, UTILIZATION

At San Jose, California, "progressive steps have been taken to free our trained personnel of errands, to decrease the professional nurses' clerical duties, to keep the nursing-units continuously supplied with central supply room equipment, and to eliminate the time spent in daily stocking of the linen closet." This has been accomplished through:
1. Linen Cart Exchange--instead of a linen closet, two large metal linen carts are prepared for each nursing unit. The orderly uses a therapy replacement form to record the material used to restock the unit.
2. Messenger Service--a messenger makes hourly rounds to deliver prescriptions, etc.
3. Roust Aid Duties--all interrupting duties are assigned to one aide. This method proved effective in assisting in discharging patients.

4. Nurses' Secretarial Duties--routine patient care charting was reduced to codes, and stationery was simplified. Tape recorded observations save time.

The author gives many more specific examples of effective utilization of personnel.

(16)

Baron, Jean M.; Adelman, William
"Organizing a Volunteer Program in a Nursing Home"
Hospitals, Journal of the American Hospital Association
Part I--March 16, 1962, pp 54-57
Part II--April 1, 1962, pp 51-53

Field: Nursing
Application: RECRUITMENT, VOLUNTEERS

This article reviews the volunteer program designed to alleviate the burden of the professional at Beth Abraham Home, New York City. Areas for recruitment (community groups) and methods (invitational lectures) are discussed. The volunteer jobs, training, and orientation program subjects are discussed.

(17)

Bartlett, Neil; Finger, Frank; Williams, Stanley
"On Recruiting Graduate Students" (Survey by the Committee on Undergraduate Education) Education and Training Board Survey, 1955
American Psychologist
Vol. 12, No. 10
October 1957, pp 618-619

Field: Psychology
Application: ADMINISTRATION, EDUCATION, RECRUITMENT

Small colleges are producing a higher percent of graduate students while many large colleges attract a low percent of majors and send them on to graduate school. Perhaps the large school does not have time for the individual.

"Did the survey identify any single variable associated with the rate of producing graduate students?" No. Many ideas had to be abandoned or modified. Aids in administration help the department, but by themselves do not promote an interest in a career in psychology. Library size, equipments budget, teaching load, exams, and undergraduate clubs have little effect on recruitment.

(18)

Baxter, Joseph R.; Jones, Reginald L.
"Acceleration of Superior High School Students"
School and Society
Vol. 90, No. 2204
February 10, 1962, pp 64-66

Field: All Professional Fields
Application: EDUCATION

In a summer program for superior high school students where they could obtain college credits prior to graduation, their overall level of academic performance was considerably higher than that of the average university freshman in comparable courses. Qualified students between their junior and senior years can successfully undertake college courses. There is a need to prevent overlapping of subsequent high school work.

(19)

Beasley, Florence A.;
Callaway, Claire S.; Stubbs,
Trawick H.
"The Follow-up of Discharged
Mental Patients by the Public
Health Nurse"
American Journal of Psychiatry
Vol. 116, No. 9
March 1960, pp 834-837

Field: Mental Health
Application: ANCILLARY PERSONNEL

In Georgia, public health nurses receive a three day orientation in helping with the follow-up of discharged mental patients. The orientation includes observations of treatments and procedures, therapies, lectures, and inservice observations.

The public health nurse can serve in a supportive position to:

1. help the family accept the patient's illness and hospitalization,
2. help the family accept the patient back into the home,
3. direct the family to further services if necessary,
4. promote mental health education in the community,
5. help the community to accept the patient,
6. provide feedback information to the psychiatrist in charge.

(20)

Beck, James C.; Kantor, David;
Gelineau, Victor A.
"Follow-up Study of Chronic
Psychotic Patients 'Treated' by
College Case-Aid Volunteers"
American Journal of Psychiatry
Vol. 120, No. 3
September 1963, pp 269-270

Field: Mental Health
Application: EDUCATION,
VOLUNTEERS

It was found that 31 percent of a group of chronic psychotics were able to leave a chronic service after treatment by college volunteer case workers in the Harvard Undergraduate Volunteer Program for case aid and ward activities. The group of volunteers is composed of eight to ten students who see their patients for an hour each week and then meet with each other for an hour. Individual supervision is given bi-weekly. The student drop-out rate has been less than three percent. Some points in the program are:

1. a student patient relationship exists over a long period,
2. the student's role is flexible,
3. the student participates with the patient in his first attempt to leave the hospital,
4. the supervisor helps the student to achieve satisfaction.

(21)

Berdie, Ralph F. (With chapters by
W. L. Layton and B. Willerman)
"After High School -- What?"
University of Minnesota Press
Minneapolis, 1954, 240 pages

Field: All Professional Fields
Application: EDUCATION,
FINANCING,
UTILIZATION

A study was made of the post-high school plans of 22,306 high school graduates in Minnesota in 1938. Thirteen percent of the sample earned degrees, 80 percent of the scholastically more able received some college training, and slightly more than a third earned degrees. Students entering college immediately after high school had a far greater chance of obtaining degrees than did capable students who delayed entrance to college for a year or more.

A number of reasons are listed why students do not go to college. These include: restricted curricula and educational facilities; limited financial resources; geographical barriers; differences of racial and ethnic groups in the desire for education; discrimination; motivational barriers.

In order to develop abilities which are not being utilized, students should be selected for specialized rather than overall ability. Ecological, psychological, cultural, and economic factors relate to the waste of talent. Since parents are the most influential factor in getting students to attend college, high school counseling should be expanded, improved, and should include parents. Also, scholarships should be announced in the ninth grade, and students encouraged at an early age to attend college.

(22)

Berdie, Ralph F.
"Assumptions Underlying Scholarship Proposals"
College and University
Vol. 34, No. 1, Fall 1958, pp 82-88

Field: All Professional Fields
Application: FINANCING

This discussion of scholarships brings many findings together. Over 50 percent of the talented high school graduates do not attend college. Of the 50 percent who do not, 58 percent said this was due to financial reasons. Half of the 58 percent said they would go if half of their expenses were paid. The author suggests that the money used for scholarships ($3,000,000 a year in Minnesota) might be better spent elsewhere, perhaps for counseling services. Also, there must be an early identification of talent, perhaps in the ninth grade. Existing scholarship programs should be well publicized.

(23)

Birky, Lucy
"New Approaches to Attracting and Keeping Personnel"
Hospitals, Journal of the American Hospital Association
Vol. 38, June 1, 1964, pp 63-68.

Field: Health
Application: EDUCATION, RECRUITMENT, UTILIZATION

The author discusses the problem of recruitment, retention, and utilization of personnel in a small hospital. Generalities are offered about attitudes and assessing the hospital programs. When retaining competent personnel the salary scale and the personnel program are considered. A concrete example is given.

Some immediate resources for personnel are discussed. These are:

1. unemployed trained persons in the community,
2. optimal utilization of present employees,
3. staff-sharing with other hospitals,
4. an adult education program,
5. evaluation of employee work.

(24)

Blain, Daniel, M.D.; Potter, Howard, M.D.; Solomon, Harry, M.D.
"Manpower Studies with Special Reference to Psychiatrists"
(Reprinted from the American Journal of Psychiatry)
Vol. 116, No. 9, March 1960, 6 pages

Field: Psychiatry

Application: ADMINISTRATION,
EDUCATION,
REORGANIZATION

The authors feel that in order to balance the supply and demand of scientific and professional personnel, it will be necessary to alter the distribution or expand the size of the college population. Many educators feel that the fundamental problem is a lack of interest in intellectual achievement. In order to make more efficient use of present personnel, it is necessary to redefine functions, reassign duties by delegating them to lower echelons working under supervision, increase administrative efficiency, and call for more volunteers.

More effective recruitment requires that more enthusiasm be transmitted to young people, wider distribution of information on the field of psychiatry, and a campaign to rid the people of confused social attitudes about mental disease.

Another suggested approach to the problem is the compilation and analysis of data on psychiatrists, the identification of current and projected demand, and the application of study and evaluation techniques to increase supply.

(25)

Blain, Daniel, M. D.
"Mental Health and Hospital Care in California"
California Medicine
Vol. 99, July 1963, pp 70-73

Field: Health
Application: ANCILLARY PERSONNEL,
REORGANIZATION,
UTILIZATION

The author stresses decentralization into community health care with continued federal and state support. To improve service the author recommends:

1. present hospitals must be increased in efficiency by 25 percent added personnel,
2. alternative services must be increased,
3. intensive care patients should receive priority while the long-term illnesses should be sent to nursing homes,
4. the Department of Mental Health should emphasize leadership, consultation, training, and research,
5. obsolete beds should be replaced by beds in the community centers,
6. of the 8,000 patients in state hospitals the many who need only nursing care should be treated accordingly.

(26)

Blaisdell, Russell E.
"Institutional Service Units Movement"
American Journal of Psychiatry
Vol. 106, No. 4,
October 1949, pp 255-258

Field: Mental Health
Application: ANCILLARY PERSONNEL,
RECRUITMENT

In Rockland, New York, the 35 American Friends Service Committee unit attendants who received 30 hours of inservice training helped fill the 200-300 vacancies of the mental hospital. The following year, the plan was to have 70 attendants. They taught folk-dancing classes, escorted patients to gyms, etc. These temporary employees returned to the community with a better understanding of mental illness and mental health. The students have addressed community groups and held educational programs.

(27)

Blanding, Sarah Gibson
"How Can Colleges Attract and
Keep First-Rate Professors?"
Journal of the American Association
of University Women
Vol. 51, No. 3
March 1958, pp 146-148

Field: Teaching
Application: ANCILLARY PERSONNEL, EDUCATION, RECRUITMENT, TECHNOLOGY

Suggestions concerned with how colleges can attract and retain first-rate professors were:

1. assure academic freedom,
2. provide adequate facilities,
3. expand the system of leaves and increase pay,
4. use junior assistants and mechanical equipment wherever possible,
5. pay adequate salaries,
6. offer more fringe benefits.

(28)

Blank, L.; David, Henry
"The Crisis in Clinical Psychology
Training"
American Psychologist
Vol. 18, No. 4
April 1963, pp 216-219

Field: Clinical Psychology
Application: EDUCATION

To step up the rate of graduates the Princeton Conference suggests:

1. expansion of present vocational training programs,
2. addition of training facilities by retooling the current master's program and utilizing state colleges for doctoral training,
3. experimentation with professional schools that would concentrate on clinical doctorates, perhaps deemphasizing less essential elements of the traditional doctorate program but including a firm basis of psychology.

(29)

Blank, D.M.; Stigler, G.J.
The Demand and Supply of Scientific
Personnel
National Bureau of Economic Research
New York, 1957, 200 pages

Field: Science
Application: SUPPLY

Although this work does not deal with any concrete proposals for solving shortages (in fact it proposes that there may not be an engineering shortage) it does try to examine, from the economist's point of view, what the determinants of supply and demand are.

It analyzes in some detail the factors associated with the supply of engineers, physicists, and mathematicians.

(30)

Blanshard, Brand (Editor)
Education in the Age of Science
Basic Books, Inc., New York 1959
302 pages

Field: All Professional Fields
Application: EDUCATION, RECRUITMENT

One-fourth of all students are incapable of completing the requirements of a good academic high school. By increasing the number of schools and teachers, decreasing the size of classes, and improving skills of instruction, this number can be reduced. There are too few good science teachers; teachers must perform many non-academic duties; the curriculum material is often antiquated. Teacher salaries should be raised.

It is from the Protestant rather than the Fundamentalist colleges of the North that a relatively large population of natural social scientists have come. Sharpness of conflict between religion and science does not drive people into creative tension that results in their being psychologists or biologists. Recruitment for these fields can be effected by teachers, parents, and scholarship organizations.

The book further includes many interesting and varied papers on education, science, and society.

(31)

Bond, Horace Mann
"Talent--and Toilets"
Journal of Negro Education
Vol. 28, No. 1
Winter 1959, pp 3-14

Field: All Professional Fields
Application: EDUCATION,
FINANCING

Merit Scholarships are awarded persons whose parents are in a relatively high economic bracket, to very few Negroes, and to almost no Southern Negroes.

Negroes and others in lower socioeconomic groups do not receive scholarships.

(32)

Bonner, C. A.
"Mental Hospital Employees, Their Importance in Future Mental Health Betterment"
American Journal of Psychiatry
Vol. 105, March 1949, pp 669-672

Field: Mental Health
Application: ANCILLARY PERSONNEL,
UTILIZATION

1. "Plans to improve mental health hospitals should take into consideration the role played by ward personnel." (Ward help below the graduate nurse level includes nurses' aides, ward maids, kitchen maids, and housekeepers.)
2. Candidates for such positions should be carefully screened, trained, and supervised.
3. Lessons learned by industry can be adapted with resulting improvement in efficiency.
4. The ward plan of care in the general hospital through division of labor can be adapted to mental health hospitals.

(33)

Boulding, K. D.
"An Economist's View of the Manpower Concept"
The Utilization of Scientific and Professional Manpower (conference)
New York, Columbia University Press
1954, pp 11-33

Field: All Professional Fields
Application: EDUCATION,
FINANCING

Dr. Boulding constructs a "free-market-place" model of occupational structure, naming four conditions under which he feels government intervention, in the form of subsidies, is justified. These include: a divergence between perceived personal advantage and actual social needs; private professional monopolies; the existence of non-appropriable or unidentifiable benefits (e.g., improvements to one's property will raise the value of one's neighbor's property as well;) and inadequate arrangements for the financing of one's investment in a profession.

Dr. Boulding also cites the problem of deciding whether to finance supply or demand; that is, whether to subsidize education or research. He feels that "where these private professional monopolies exist, there is a clear case for undermining them by government action", and attributes the existence of osteopaths and faith healers to the "guildishness" of organized medicine.

The author's conclusion, applied to the medical profession, is that a publicly financed health service would cause an increase in physician supply.

(34)

Bradshaw, Henry and Vera
"Future Physician's Clubs Attract Teen-Agers to the Medical Profession"
Today's Health
January, 1964, pp 54-57

Field: Medicine
Application: RECRUITMENT, UTILIZATION, VOLUNTEERS

This is a description of the operation of the Future Physicians of America in Des Moines, Iowa. Programs are organized to introduce the student to many aspects of medicine. The club is organized around the high school, and community physicians and health services take an active part in it. The club members also serve as volunteers at hospitals and engage in minor medical and housekeeping duties. Thus they are recruited into medicine, and perform services which take a small part of the load off the busy professionals. This club was based on the Essex County, New Jersey and Albuquerque, New Mexico clubs, as well as the American Medical Association material on the subject.

(35)

Brandwein, Paul F.
"Obstacles to Increased Physics Enrollment"
American Journal of Physics
Vol. 23, No. 8
November 1955, pp 537-541

Field: Physics
Application: EDUCATION
REORGANIZATION

There are fewer students enrolled in physics than need be. Many high schools do not offer physics; some teachers discriminate against girls; normal achievers are often counseled away from physics.
Suggestions:
1. students should receive recognition for high school courses taken and proceed from that knowledge, rather than have to relearn it,
2. a crash program of teacher pay increases should be initiated,
3. educational facilities must make room for the average as well as the above-average student. With graded tests, the outstanding students could perhaps get college credit,
4. college professors should give their support and make themselves available to high school science teachers,
5. physics should be taught as a relevant, practical course.

(36)

Brickman, William W.
"Medical Education and the Critical Shortage of Physicians"
School and Society
Vol. 84, No. 2090, pp 29-30

Field: Medicine
Application: RECRUITMENT

To increase the number of physicians:
1. encourage more Americans to study medicine,
2. let foreign physicians take state exams to practice medicine,
3. remember that: "Discriminatory selection on non-academic bases is an extravagance which this nation can ill afford."

(37)

Brickman, William W.
"Speed-Up of the Ph.D. Degree"
School and Society
Vol. 84, No. 2146
January 31, 1959, pp 51-52

Field: All Professional Fields
Application: EDUCATION

Possibilities for shortening the training time for Ph.D.'s:
1. eliminate dissertation in favor of competent research,
2. give more time to dissertation with an offsetting reduction in course requirements,
3. frequent contacts, proddings, and counseling from graduate professors are necessary.

(38)

Brinkman, Albert R. (Major)
"The Armed Forces Seek to Help the Schools"
School and Society
Vol. 76, No. 1971
September 27, 1952, pp 196-197

Field: Teaching
Application: EDUCATION, UTILIZATION

The armed services can be instrumental in helping the temporary military person to improve his civilian occupational skills. Some programs offered are:
1. group study classes taught by civilian or military teachers,
2. correspondence and self-teaching courses provided by the United States Armed Forces Institute,
3. classes provided by accredited civilian schools and colleges.

(39)

Brode, Wallace R.
"Approaching the Ceilings in the Supply of Scientific Manpower"
Science
Vol. 143, No. 3604
January 24, 1964, pp 313-324

Field: All Professional Fields
Application: ANCILLARY PERSONNEL, EDUCATION, FINANCING, UTILIZATION

Since we are nearing the maximum utilization limits of college students, efforts should be made toward improving the quality of teaching methods and maximizing the utilization and allocation of valuable personnel. Already 50 percent of college students drop out. Thus, if we enroll more, more will fail, as it is primarily the poorer students who do so. When additional numbers of enrolled students fail to add proportionately to the number of science majors, the ceiling has been reached. Efforts to recruit women may be successful, but lengthy. The schools which produce the major supply of Ph.D. candidates are suffering from a lack of competent young instructors who may prefer subsidized work in other programs.

The bottleneck is not lack of facilities, scholarships, or teaching assistantships. The problem is a shortage of graduate students. The need for better education for those qualified students could be attained through subsidies to major Ph.D. producers. Institution of a program for nonprofessionals will guard against the lowering of standards. Solutions, then, are: better selection, better training, strengthening of courses, and the granting of professional degrees in technology.

(40)

Brode, Wallace R.
"Recruitment Through Education and Experience"
Science
Vol. 116, No. 3012
September 3, 1952

Field: Science
Application: ANCILLARY PERSONNEL, RECRUITMENT

A recruiting program for student trainees was initiated by announcements and followed up by direct contact with teachers and students. Selected students work as technical assistants during the summer, and many are offered full time employment after graduation. University professors can recruit through counseling and through their influence on the students.

(41)

Brook, C. P. B.
"Teaching Psychiatry in the Mental Hospital"
Lancet
Vol. 1, April 27, 1963
pp 939-940

Field: Mental Health
Application: EDUCATION, UTILIZATION

In a survey it was found that 38 out of 48 students had changed their views of mental hospitals for the better after spending a week's residence in an institution as part of a two-month clerkship. Nine opinions were unaltered, and one was worse. Students found that in general practice they would need experience not only with neurosis, less severe psychotic illness, and psychosomatic medicine, but also with major psychosis. The general practitioner must take part in long term rehabilitation, and "only experience in a mental hospital will equip him to do so."

(42)

Brown, J. D.; Harbison, F.
High-Talent Manpower for Science and Industry: An Appraisal of Policy at Home and Abroad
Industrial Relations Section
Department of Economics and Sociology
Princeton University 1957, 97 pages

Field: All Professional Fields
Application: EDUCATION, MOTIVATION

In this brief analysis of the rising role of and need for highly talented manpower in the United States, there is a discussion of how corporations, universities and the state can help to stimulate creativity in the following generations.

The author proposes some general policies and cautions against stifling the creative individual. He poses problems which must be solved in higher and secondary education.

He also discusses the manpower demands and supplies of the newly industrializing countries.

(43)

Brown, Kenneth E.
"Mathematics: A Key to Manpower"
School Life
Vol. 36, No. 2
November 1953, pp 26-27

Field: Mathematics
Application: EDUCATION, FINANCING, MOTIVATION

The output of scientific personnel is decreasing and the current shortage is likely to continue. Part of the solution to both problems is to begin mathematical training of students prior to the college level. The author proposes:
1. mathematics curricula changes in high school,
2. smaller classes leading to more individual attention,
3. financial assistance.

The supply will be increased by:
1. more effective motivation and guidance in high school mathematics,
2. cooperation between education and industry,
3. scholarships.

(44)

Bruce, William C.
"Desirable Reduction"
American School Board Journal
June 1959, p 52

Field: Teaching
Application: EDUCATION

School boards should consider the following methods of improving and more efficiently utilizing the teachers' time:
1. increase the school year from 180 to 200 days,
2. strengthen mathematics and science courses,
3. de-emphasize fringe courses,
4. improve guidance and placement work,
5. encourage students to set higher goals,
6. try to prevent outside activities from interrupting the classroom,
7. shift club meetings and other events to pre- and post-school hours.

(45)

Bruhn, J. G.; Parsons, O. A.
"Medical Student Attitudes Toward Four Specialties"
The Journal of Medical Education
Vol. 39, No. 1
January 1964, pp 40-50

Field: Medicine
Application: RECRUITMENT

A group of medical students rated the four specialties of psychiatry, internal medicine, general practice, and surgery, on several traits. It was discovered that psychiatrists are less positively thought of than are other specialists. They are believed to be intellectually confused and emotionally unstable. Whether or not the student intends to enter a specialty or whether he is pre-clinical, appears to have little to do with what his stereotype of the specialty is.

(46)

Buggs, C. W.
"Problems in the Premedical Education of Negroes"
Journal of Negro Education
Vol. 19, No. 2
Spring 1950, pp 142-151

Field: Medicine
Application: EDUCATION, RECRUITMENT

Reasons for so few Negro doctors:
1. inability of the two Negro medical colleges to accommodate enrollment.
2. weakness of Negro undergraduate education,
3. resultant inability to compete successfully with white students for admission to medical schools without bias.

To correct the above, thus gaining more Negro students, the below should be followed:
1. greater selection of students for pre-med study,
2. better guidance,
3. institution of a reading clinic,
4. hire more teachers,
5. buy more lab equipment,
6. do not underestimate students' potentialities and capabilities,
7. use more standardized tests,
8. grade papers and lab work effectively.

(47)

Bush, George P.; Hattery, Lowell H.
"Federal Recruitment of Junior Engineers"
Science
Vol. 114, No. 2966
November 2, 1951, pp 455-458

Field: Engineering
Application: RECRUITMENT

The authors discuss the relative merits of careers in government compared with those in industry. Some problems exist in the government recruiting program -- interviewers were often late for their appointments, made poor impressions on the students, lacked knowledge and a satisfactory technical background, offered no specific jobs, and were poorly organized. An improved recruitment program may interest more students in government employment.

(48)

Carmichael, Oliver C.
" -- A Call to Action"
Journal of the American Association of University Women
Vol. 53, No. 1
October 1959, pp 31-34

Field: All Professional Fields
Application: EDUCATION, FINANCING

To increase the number of college students:
1. define the course and time requirements for a Ph.D.,
2. ask assistance of colleges in identifying talented youth and preparing them specifically for graduate work,
3. assist graduate students financially,
4. foster community programs emphasizing the need for teachers,
5. communicate with high school counselors to locate gifted students,
6. obtain financial support from lay groups.

(49)

Carmichael, Oliver C.
"A Three Year Master's Degree"
Journal of Higher Education
Vol. 31, No. 3
March 1960, pp 127-132

Field: All Professional Fields
Application: EDUCATION, RECRUITMENT

This is a proposal to staff colleges with those who hold a lower degree than a Ph.D. The author suggests that the current standards for a master's degree are so varied that it is an untrustworthy degree.

Some have recommended a two-year M. A. program but he feels that this takes too long.

A three-year master's degree program starting in the junior year would give adequate preparation for teaching lower division courses. It would be a program exclusively for bright students and would act as a recruiting device into Ph.D. programs, which could probably be completed in an additional two years.

(50)

Chauncey, Harry
"More Effective Utilization of Teachers"
The Utilization of Scientific and Professional Manpower
National Manpower Council
Columbia University Pres
New York, 1954

Field: Teaching
Application: UTILIZATION

Mr. Chauncey proposes two definitions of "utilization" along with two lines of attack on the problem. The employment criterion inquires whether a significant number of persons trained in a given field are not occupied in that field. The level-of-skill criterion asks whether the individual is effectively employing his most important skills and talents. Although only the first criterion has been employed in the attempt to utilize teachers effectively, the author suggests that the second might provide a more fruitful approach, that is, by increasing the efficiency of the present teachers. The author suggests the idea of a "master teacher" who would be qualified to deal with larger numbers of students, thereby saving salaries and allowing for increases in pay, and also raising the caliber of individuals attracted to the profession.

(51)

Christopherson, D. G.
"The Robbins Report -- An Engineer's View"
The Chartered Mechanical Engineer
Vol. 11, No. 1
January 1964, pp 22-25

Field: Engineering
Application: EDUCATION, RECRUITMENT

To up the number of students in technology through recognized post graduate work:
1. conduct forums for the publication and discussion of research,
2. sponsor specialized courses,
3. conduct refresher courses to bring careers up to date.

The report recommends that:
1. colleges of advanced technology should be designed as technical universities, with power to award both first and higher degrees,
2. the links between universities and government research be strengthened by freer movement of staff and more cooperative arrangements.

(52)

Churchill, Edward D.
"Should I Study Medicine?"
The New England Journal of Medicine
Vol. 268, No. 10, pp 537-539

Field: Medicine
Application: RECRUITMENT

In 1959 when only 16 students in Maine entered a medical school a survey tried to find out why. The lack of proper information and abundance of misinformation seemed to be the reasons. In recent years the image of the doctor has been tarnished by accusations and counter-accusations. The author states that to get students into the field the doctor must feel pride in his profession and present a calm analysis of the situation. Medicine is now expected to do what religion hitherto has done--heal frustrations and loneliness. The student who intends to enter the field must seek information and beware of misinformation.

(53)

Clark, Felton G.; Harrison, E. C.
"Educating the Gifted Negro Student"
Superior Student
Vol. 2, No. 3, April 1959, pp 2-4

Field: All Professional Fields
Application: EDUCATION, RECRUITMENT

"There is concrete evidence of the fact that existing among Negro youth is a significant number of potentially gifted students who, because of certain deterring cultural factors, are not discovered." Only a few of those identified "have the opportunity to benefit from the kind of educational experience that would encourage them to develop their potential . . . Those who are involved in planning education programs for Negro youth must become more aware of the need for seeking out those with potential and extending to them stimulating educational opportunities."

(54)

Cobb, Montague
"Not to the Swift: Progress and Prospects of the Negro in Science and the Professions"
Journal of Negro Education
Vol. 27, No. 2
Spring 1958, pp 120-126

Field: Medicine
Application: EDUCATION

To date, 14 of the 26 Southern medical schools have admitted Negro students voluntarily. As late as 1946, Negro medical graduates had a choice of about a dozen Negro approved hospitals in which to do their internships. After the Hospital Survey of 1946, new internships were made available. According to the author, "Negro medical graduates now find no difficulty in obtaining an internship in a reputable hospital." The Negro must be prepared for the opportunities which come his way.

(55)

Coleman, Lee
"Occupational, Educational, and Residence Plans of Negro High School Seniors in Lexington and Fayette County, Kentucky"
Journal of Negro Education
Vol. 29, No. 1
Winter 1960, pp 73-79

Field: All Professional Fields
Application: CAREER CHOICE, EDUCATION, FINANCING

When Negro seniors (44 girls and 47 boys) in Kentucky were sent a career questionnaire, over one-third of the girls listed nursing as first choice; others listed it as second and third. Only half of those who preferred nursing actually planned to go into the field. Boys often listed military service and planned to continue their education in it. Only two boys listed medicine as their first choice.

In another question asked about college plans, "a great deal of indecision and/or inability to foresee financing further education were apparent in the responses." All but two girls planned to continue their education while only three-fourths of the boys did. Only two of the ten girls who listed nursing had definite plans. Two boys listed definite plans for medical school. Results appear to indicate that there is a need for educational and vocational counseling. It also became apparent that very few seem to know how they will finance college.

(56)

Colver, Robert M.
"Scholarship Selection and Administration -- An Objective Appraisal of One Program"
College and University Business
Vol. 30, October 1954, pp 20-27

Field: All Professional Fields
Application: EDUCATION,
FINANCING

The author presents some findings on the scholarship program at the University of Kansas. Both the selected scholars and rejected candidates were more persistent in their studies than the average college population. "On the basis of the assumption that the rejected candidates group was representative, it was estimated that for every scholarship available there were three candidates potentially able to maintain minimum scholarship academic standards." When student reactions to the scholarships were polled it was found that 22 percent of the 190 scholars said that college would have been impossible without financial aid. Also, 22 percent said the scholarships may have been an incentive for higher grades in high school, while others said they were not aware of the funds and thus remained unaffected.

(57)

Committee on Sub-Doctoral Education of the Education and Training Board of American Psychological Association
"The Training of Technical Workers in Psychology at the Sub-Doctoral Level"
American Psychologist
Vol. 10, 1955, pp 541-545

Field: Psychology
Application: EDUCATION

Since there is a need for psychologists at the sub-doctoral level, the Committee gives the following recommendations: (partial list)

1. emphasize a broad undergraduate program in psychology,
2. discourage specialization to undergraduates,
3. encourage full-scale study of overall recruitment problems,
4. provide four semesters of graduate training for psychological technicians. The introduction of a two-year master's degree program would raise the level of psychological service to the public and better standardize professional competence.

(58)

Conant, James Bryan
The Child, the Parent, and the State
Harvard University Press, Cambridge, Massachusetts, 1960, 211 pages

Field: Science
Application: EDUCATION,
REORGANIZATION

Many students entering college from small high schools have an inadequate background in mathematics. Elimination of small high schools through reorganization may alleviate the problem; however, the public is often influential and resistant to change.

(59)

Conant, James Bryan
The Education of American Teachers
McGraw-Hill Book Co., Inc.
New York, 1963, 275 pages

Field: Teaching
Application: EDUCATION

Dr. Conant feels that local and regional differences in methods of teacher education, the results of local controls and of the varying programs of individual institutions, are of great value to education, and must be preserved. He recommends a sharp restriction of professional courses and a lengthy period of carefully supervised practice teaching. He also recommends that each college plan its own program of teacher education.

Dr. Conant considers the issues of responsibility for curriculum-making and teacher certification, and would sharply limit the functions of the National Council for Accreditation in Teacher Education, so that its role would be purely advisory. He also provides suggestions for raising the standards and quality of teacher education without undue conformity or outside regulation.

(60)

Connors, Edward J.
"Paramedical Education"
Hospitals, Journal of the American Hospital Association
Vol. 38
April 1, 1964, pp 125-128

Field: Health
Application: ANCILLARY PERSONNEL,
UTILIZATION

The number of paramedical fields has consistently increased in recent years. Part of the problem they present is that there is an increasing demand for technically trained personnel, but the educational system is not competent to meet the demand. High schools give too little education and colleges give too much, therefore, it is necessary for the hospitals to continue to engage in the educational process.

The author cites articles that deal with attempting to solve manpower shortages. It is pointed out that in order to best utilize technical personnel it is necessary to have good supervisory personnel. He also observes that time studies can promote the more effective utilization of personnel.

(61)

Consolazio, W. V.
"Dilemma of Academic Biology in Europe"
Science
Vol. 133, No. 3468
June 16, 1961, p 1892

Field: Biology
Application: EDUCATION,
FINANCING

It is recommended that the United States give financial assistance to Europe's science academies, because it is in our national interest to have healthy competition. Furthermore, we need training centers to season and attract young scientists. We can also be of help by donating teaching aids and surplus equipment.

(62)

Courtney, M. E.
"Nursing Education"
Hospitals, Journal of the American Hospital Association
Vol. 37, April 16, 1963, pp 139-142

Field: Nursing
Application: EDUCATION

Due to the demand for nurses, the teaching approach is being examined. Techniques of programmed instruction (no details), closed-circuit television, and the use of tape and films are new experiments. Curriculum improvement includes an honors program for excellent students, and a program of research participation for outstanding pupils.

(63)

Creager, John A.
A Study of Graduate Fellowship Applicants in Terms of Ph.D. Attainment
Research on Fellowship Selection Techniques Supported by the National Science Foundation Technical Report No. 18, Washington, D. C., Office of Scientific Personnel, National Academy of Sciences -- National Research Council, 1961

Field: All Professional Fields
Application: EDUCATION

This report analyzes the relationship between the awarding of fellowships and the rate of successful completion of Ph.D. candidacy. The sample consisted of 2,196 applicants for NSF fellowships in 1952. Data for several fields, including psychology, are presented. The basic conclusion reached is that students who receive awards are more likely to receive Ph.D. degrees than those who do not receive awards. Further statistics are included.

(64)

Criswell, Joan H.
"Support of Graduate Students in Social Psychology by the Office of Naval Research"
American Psychologist
Vol. 9, 1954, pp 148-150

Field: Social Psychology
Application: ANCILLARY PERSONNEL,
FINANCING

The Office of Naval Research has encouraged its researchers to use graduate students wherever possible. Researchers mentioned frequent use of students. "Besides providing students with financial support, contract projects give them an opportunity to participate in research of broad significance, work closely with high caliber personnel, and assume increasing professional responsibility." Of 158 students, 157 theses reports for Master's or Ph.D.'s stemmed from project work.

(65)

D'Alessandro, Marie
"A Volunteer Program for Teen-Agers"
Hospitals, Journal of the American Hospital Association
Vol. 35, October 1, 1961, pp 47-51

Field: Nursing
Application: EDUCATION, UTILIZATION,
VOLUNTEERS

Teen-age volunteers at Clara Maass Memorial Hospital, Belleville, New Jersey, are interviewed, receive training and orientation, are taken on a hospital tour, and receive uniforms before they start work. The program has proven to be an assistance to the hospital and a learning process for the teen-agers. When reactions were solicited on the volunteer program one comment was "it helped me decide on a nursing career."

Some of the volunteer jobs:
1. escort new patients to therapy, introduce them to the nurse,
2. package dressings, fold linen, sort material,
3. take gift cart to patients, serve as cashier, clear tables, sell gifts,
4. assist nurses in feeding patients, pouring fresh water, making empty beds,
5. read to children,
6. fill bottles, count pills, do clerical work,
7. act as receptionist, file, answer phones.

(66)

David, Henry
"Manpower Development and Utilization: A Governmental or a Private Responsibility?"
Annals of the American Academy of Political and Social Science
Vol. 325, September 1959, pp 70-77

Field: All Professional Fields
Application: UTILIZATION

In the United States, responsibilities for the development and utilization of manpower resources are located in fact and by necessity in both private and public hands. Government policies and actions today constitute the most powerful single instrumentality for shaping the manpower resources of the United States.

Manpower problems are complex human problems and have no quick and easy solution. Greater congruence in the making of manpower policies can be achieved through rough agreement on central objectives by governmental units and private individuals and organizations. Values of a free and democratic society establish an obligation to discover and create the conditions under which the potentialities of man may be realized.

(67)

David, Henry
What Priority for Education? The American People Must Soon Decide
University of Illinois Press
Urbana, Illinois 1961, 42 pages

Field: All Professional Fields
Application: EDUCATION

The author indicates that lack of teachers is the central problem behind the professional manpower shortage. He makes the following suggestions to improve American education:
1. raise teacher's salaries,
2. appropriate more money for research,
3. impose fewer restrictions on research grants,
4. expand federal funds appropriated for labs, space, and equipment,
5. continue and expand adult education programs underway,
6. improve cooperation among institutions.

(68)

David, Henry
"Manpower Problems and Education"
from Education and Manpower (Ed. Henry David) Columbia University Press, New York, 1960, pp 3-15

Field: All Professional Fields
Application: EDUCATION, UTILIZATION

Throughout its history the U. S. has never had to deal with manpower shortages. Only with the advent of World War II and the Cold War were we faced by a continuing manpower shortage in the professional fields.

The author indicates that the problem will increase rather than diminish in the next few years. He shows five directions to be taken:

1. seek ways of reducing the waste of human talent,
2. improve educational institutions,
3. train more people,
4. utilize the highly trained,
5. strive to increase knowledge of human resources.

The professional manpower shortage also affects education, as there are not enough teachers; those who do teach are often utilized improperly.

(69)

National Manpower Council
"Post-High School Education and Training of Women"
Education and Manpower
(Ed. Henry David) Columbia University Press, New York
1960, pp 260-288

Field: All Professional Fields
Application: EDUCATION,
MOTIVATION

The higher education of women has always been a difficult issue. Although more and more women have been getting college educations since the first admissions, it is still true that only a small proportion are receiving higher education; and those who do choose only a few professions. The number of women holding M.A.'s is higher than that of men, but the number of Ph.D.'s is quite negligible. Economic reasons can account for only part of this lack; the rest is motivational, resulting in a vast loss of manpower in our country.

The debate over what kind of education women ought to receive is a continuing one, and not easily settled. Some current situations contribute to the problem.

(70)

"The Secondary Education of Girls"
Education and Manpower, (Ed. Henry David) National Manpower Council, Columbia University Press, New York
1960, pp 102-106

Field: All Professional Fields
Application: EDUCATION

In 1954,the Educational Testing Service performed a study with the following findings:

1. girls prefer a curriculum which will prepare them for jobs when they leave school,
2. boys receive better college preparation than do girls,
3. high school senior boys are most interested in engineering, physical science, business, and liberal arts, in that order. Girls are interested mainly in health professions, but their interests were focused on nursing rather than on being doctors,
4. the higher the educational and occupational level of the father, the likelier are both girls and boys to go on to college.

(71)

Delaware Academy of General Practice
"The General Practitioner and Mental Health -- A Paradox"
Delaware Medical Journal
July 1962, page 205

Field: Mental Health
Application: EDUCATION, UTILIZATION

This article discusses the role of the general practitioner in mental health care. Psychiatrists say that a little knowledge of psychiatry will lessen the G.P.'s load, because fewer visits will be necessary, and because the physician may counsel his patients. Three classes of patients need non-psychiatric psychotherapy; patients with situational problems; those with beginning disturbances; and post-hospital patients. The aged might fall into any of these groups.

The G.P. needs to know how to take a psychiatric history; to know about psychosomatics and about simple psychotherapy; to know when to refer; to be able to see when a person might kill himself. Seminars, symposia, and role playing sessions can be set up to give the G.P. sufficient knowledge to play his role.

(72)

Douglas, A. M.
Social Factors Which Affect Career Choice in Psychiatric Nursing
The Catholic University Press, Washington, D. C., 1961, 20 pages

Field: Nursing
Application: CAREER CHOICE

The junior class of a nursing school was studied. It was found that the most important variables in career choice were the performances of nurses in psychiatric nursing and the hospital and school social systems, such as the attitudes of teachers and graduate nurses. Personal friendships were important, but parental attitudes had little effect.

(73)

Downing, J. J.
"On Certain Professional Problems in Community Mental Health Service"
8 pages, Unpublished paper

Field: Nursing, Psychiatry, Social Work
Application: REORGANIZATION

A statement is made in favor of institutional psychiatric practice over private practice, because the institutional practitioner can treat more patients. Professional problems are dealt with. Downing illustrates how the psychiatrist, nurse, and social worker can work together effectively: the nurse can care for the elderly parent, the social worker can place her, and the psychiatrist can help her and her children adjust to the solution.

Some suggestions:

1. schedule less time for individual interview therapy and more time for inter-agency conferences around patients and their family problems,
2. expect teaching staff to have community contacts and responsibilities--to sit on an agency board, consult with social workers, consult at the local jail, teach at the state hospital,
3. set up a regular seminar to discuss community contacts, with emphasis on adapting psychiatric knowledge and practice to other agency procedures, methods,
4. in the second or third year, schedule the residents to visit all types of agencies to learn about the agency, its problems, its caseload, and what it has to offer.

(74)

Dreher, George K.
"Operative Relations Between Engineering College and Secondary Schools"
Engineering Education
Vol. 59, 1952, pp 255-260

Field: Engineering
Application: CAREER CHOICE, RECRUITMENT

In order to locate engineering students the colleges must reach below the top 20 percent of students. Since the student must decide in high school about his career, information should be supplied at this level through movies, booklets, and speakers. Employees who are satisfied and successful in their jobs provide good feedback to students who may become interested in the field.

(75)

Dubridge, Lee A.
"Scientists and Engineers: Quantity or Quality"
Science
Vol. 124, No. 3216
August 17, 1956, pp 299-304

Field: Engineering, Science
Application: EDUCATION, FINANCING, RECRUITMENT

To alleviate the manpower shortage, present resources must be utilized more effectively. The stockpiling of engineers must stop and working conditions should be improved. Many high school graduates do not go to college for financial reasons, poor quality of early education, etc. The Frontiers for Science (Oklahoma City) has the aim of mobilizing efforts of junior high school students, teachers, and parents through traveling exhibits, movies, newspapers, and letters.

Other points brought out are:

1. junior high school teachers need more recognition, rewards, and teaching aids, such as; movies, labs, and better texts,
2. counselors need re-education,
3. parents must become familiar with science and make sure their children are tested,
4. scientists and engineers need a face-lifting,
5. research is needed on methods of finding talent,
6. educators should not underestimate their students,
7. the quality of education should be improved as well as the quantity. (The author proposes that some institutions devote themselves exclusively to quality),
8. better selection of engineers is needed,
9. industry should expand the fellowship program.

(76)

Durrell, John
"Student Seminar at the Public Health Center"
Science Teacher
Vol. 25, No. 5
September 1958, pp 259-261

Field: All Professional Fields
Application: RECRUITMENT

Nineteen superior high school students attended a seminar at the Public Health Center. The program included a research lab visit, films, observation of experiments, and participation in them where possible. It was held for "students who might recognize in exposures such as this the desirability of a career in science."

(77)

DuShane, Graham
"Manpower and Education"
Science
Vol. 124, No. 3222
September 1956, p 561
Field: All Professional Fields
Application: EDUCATION, FINANCING, RECRUITMENT, UTILIZATION

The Subcommittee of Research and Development of the Joint Committee on Atomic Energy has made the following proposals to increase the number of students and teachers:

1. identify students early and provide them with stimulating courses,
2. encourage them to continue beyond the high school level,
3. improve the supply of high school and college teachers,
4. utilize present talent more effectively,
5. improve inservice training,
6. raise teacher salaries,
7. keep an educational reserve made up of qualified persons from industry or retired teachers for teaching,
8. expand Federal scholarships.

(78)

Edelson, Ruth
"A Local League Initiates Refresher Courses"
American Journal of Nursing
Vol. 51, No. 8, August 1951, p 501

Field: Nursing
Application: EDUCATION, UTILIZATION

In a preliminary survey in Detroit it was found that of 3,000 inactive nurses, 150 were interested in resuming their careers and attending classes. The classes consisted of four hours per day in class, four hours on the ward. Fifteen nurses eventually attended the classes with no drop-outs.

(79)

Educational Policies Commission and the American Council on Education
Education and National Security
Washington, D. C.
December 1951, 60 pages

Field: All Professional Fields
Application: DISTRIBUTION, EDUCATION, FINANCING, MANPOWER RESOURCES

The development of gifted and handicapped children would contribute significantly to the nation's manpower resources. Better high school guidance and more scholarships may increase the number of college students. Some of the recommendations concerning education are:

1. no student should be drafted until after high school graduation,
2. improvement of high school curricula is necessary,
3. educators must pay special attention to the emotional needs of students,
4. groups must be established at community, state and national levels for meeting manpower needs,
5. adult education must be improved and expanded,
6. high school programs should be available to service dischargees who wish to receive their diplomas.

The author discusses manpower distribution problems and suggests planning for the future at a national level.

(80)

Educational Policies Commission
Manpower and Education
National Education Association and American Association of School Administrators, Washington, D. C.
1956, 128 pages

Field: All Professional Fields

Application: MANPOWER RESOURCES, UTILIZATION

This publication describes some of the causes and dimensions of the manpower shortage as well as factors likely to affect it (i.e., automation). The problem of under-utilization of women and of minority groups is discussed at length.

Emphasis is placed upon solving the problem within the present democratic framework. Humanism is espoused and from it a number of abstract recommendations are derived.

(81)

Engineering Manpower Commission
Engineering Student Attrition
April 1963, 13 pages

Field: Engineering
Application: EDUCATION

This article provides a discussion of the reasons that students drop out of engineering programs. Proposals to reduce the drop-out rate are:

1. better pre-selection, guidance, and orientation,
2. flexibility in academic curricula,
3. remedial programs,
4. "professionalization" courses.

(82)

Engle, T. L.
"Teaching Psychology in High Schools"
American Psychologist
Vol. 7, No. 1
January 1962, pp 31-35

Field: Psychology
Application: EDUCATION

"Relatively few high schools offer a course in psychology, but the number seems to be increasing. In those schools in which it is offered, both teachers and pupils tend to be enthusiastic about the course. They tend to believe that more than one semester should be devoted to the course in psychology."

(83)

Federal Reserve Bank of San Francisco
"Western Men of Science"
Monthly Review
March 1964, pp 65-70

Field: Science
Application: EDUCATION

This article considers the reasons for the West's disproportionately large contribution to the pool of scientists in the United States and attempts to state why this disproportion exists.

1. The West has five of the twenty-two "best" graduate schools in the nation, which attract graduate students.
2. The existence of these schools has attracted industry which likes the research facilities and personnel.
3. The pleasant geography, higher wages, and better conditions attract free lance scientists, who further increase the West's share of the Nation's scientists.

(84)

Feedman, Sidney
"Increasing Role for Women in Electronic Engineering"
Electronic Industries
Vol. 23, No. 2
February 1964, pp 46-50

Field: All Professional Fields
Application: MANPOWER RESOURCES

Concerning the search for unexploited womanpower, the following points were emphasized:

1. schools do not encourage girls to enter scientific and engineering fields,
2. women receive dull and repetitive jobs,
3. men are opposed to hiring women who may quit to raise families.

(85)

Field, Carolyn W.
"What Other Professions Do"
Library Journal Articles on Recruiting for Librarianship
1962, pp 39-41

Field: All Professional Fields
Application: RECRUITMENT

This article provides a summary of what several professions are doing in the area of recruiting. The following generalizations are made:

1. each field has well organized professional recruiting programs,
2. all relate recruitment to the educational program,
3. all use up-to-date printed materials,
4. speakers' bureaus are helpful,
5. high school organizations are encouraged,
6. the programs, for the most part, are quite successful.

(86)

Finsterle, June; Vail, Robert S.
"An Admitting Suite for the First Critical Hospital Hours"
Hospitals, Journal of the American Hospital Association
Vol. 37, November 1, 1963, pp 44-48

Field: Medicine
Application: UTILIZATION

This article discusses an admitting suite of a hospital in Hackensack, New Jersey. "The medical staff soon recognized that using the emergency department for the initial evaluation and treatment of ambulance patients saved time for nurses, technicians, and physicians." Under the prior system uneven work loads were creating high peaks in the number of admissions to a unit; the scattering of new admissions throughout the hospital resulted in loss of man hours; the minimal night nurse staff was often called for serious cases; and nurses had to perform clerical duties. Under the new system the admitting suite load is spaced by patient transfer to intermediate nursing units at optimum times; new admissions are in a centralized area; adequate staff is available around the clock for emergencies; and floor clerks do clerical work.

(87)

Fitzpatrick, Edward A.
"Federal Scholarships and the Quality of Education"
American School Board Journal
February 1958, pp 56 and 62

Field: All Professional Fields
Application: EDUCATION, FINANCING

Proposals by the President's Commission on Higher Education for massive state and federal scholarship programs in the name of national defense and manpower are described. The author cites the National Science Foundation disagreement that higher quality of education, not scholarships, is what is needed. The author agrees with this position.

(88)

French, L. F.
"New Fields for Men Volunteers"
Hospitals, Journal of the American Hospital Association
Vol. 36, October 1, 1962, pp 49-51

Field: Health
Application: RECRUITMENT, VOLUNTEERS

This article outlines a plan of recruitment for male volunteers to hospital work. The plan takes advantage of the interests and abilities of the volunteers, not to relieve the nurse of her duties, but to provide additional services to the patient. For example, a man whose hobby is photography may entertain in nursing homes by showing movies.

Recruitment techniques include: a speakers' bureau with brief talks, illustrated with slides; radio and TV programs; and brochures distributed to industries and potential retirees. Although the need for volunteers has increased, this program moves slowly in order to insure the most efficient placement of the volunteers.

(89)

Funkenstein, D. H.
"Failure to Graduate from Medical School"
Journal of Medical Education
Vol. 37, No. 6
June 1962, pp 588-603

Field: Medicine
Application: EDUCATION

Although the quality of the average medical school student remained the same, the attrition rate increased between 1955 and 1960. The problems lie in three major areas:

1. discrepancies between the students' preparation and the demands of medical school,
2. psycho-social developmental problems on the part of student,
3. miscellaneous problems such as attendance at a medical school inappropriate to educational aims.

(90)

Gallant, Joseph
"Literature, Science, and the Manpower Crisis"
Science
Vol. 125
April 26, 1957, pp 787-791

Field: Science
Application: EDUCATION

Students must be attracted before they can be expected to enroll in science courses. Literature can most appropriately project the emotional impact of the scientific outlook to the individual.
Some suggestions the author makes are:

1. traveling libraries can be used effectively,
2. school libraries need a balance between lower and upper grade science books,
3. the humanities and the arts can present the sciences attractively.

(91)

Garfield, S. L.
"Research Survey -- State Mental Health Programs"
American Psychologist
Vol. 15, No. 5
May 1960, pp 319-320

Field: Mental Health
Application: FINANCING, REORGANIZATION

The author presents the following opinions. Obstacles to psychological research include:

1. lack of personnel,
2. lack of funds,
3. lack of time.

His suggestions to stimulate research include:

1. appropriation of funds,
2. provision for a state research consultant or council,
3. hiring of personnel with research backgrounds for cooperation among the various state institutions and agencies and to discuss research for greater publicity of research activities.

(92)

Ginzberg, Eli
"Education and National Effectiveness"
Education and Manpower, (Ed. Henry David)
National Manpower Council,
Columbia University Press, New York
1960, pp 17-32

Field: All Professional Fields
Application: EDUCATION

The interconnection between economics and education in America, shown through specific examples, is described.

The author describes how the money-making propensity, the value placed on change, and the concept of quality are intermeshed with the American concepts of opportunity for education, vocational education and with our variable academic standards.

He also gives a general description of the strengths and weaknesses of our system, and concludes that our system is a good one.

(93)

Ginzberg, Eli
Human Resources:
The Wealth of a Nation
Simon and Schuster, New York, 1958

Field: Psychiatry
Application: RECRUITMENT, UTILIZATION

This book contains a brief discussion of the under-utilization of psychiatric manpower. The mental institution encounters a great deal of difficulty in recruiting psychiatrists because the salary that it can offer is substantially less than the $35,000 to $45,000 a year that some doctors can earn in private practice. It is also stated that, "Some may question whether any under-utilization exists in this field, since the psychiatrist in private practice is busy taking care of the patients. However, while the psychoanalyst in private practice is able to complete the treatment of five to ten patients during the course of a year, the psychiatrist in a state mental hospital is usually responsible for the care of more than 200 patients--all of whom are seriously ill, though many may no longer be amenable to treatment." (It would seem that, quite apart from monetary considerations, the prospect of "200 patients--all of whom are seriously ill" might discourage the young doctor from joining the staff of a mental institution.)

(94)

Ginzberg, Eli; Anderson, J. K.
Manpower for Government - - A Decade's Forecast
Public Personnel Association,
Chicago
1958, 31 pages

Field: All Professional Fields
Application: RECRUITMENT, UTILIZATION

This pamphlet contains a list of trends and proposed solutions for the Government's manpower shortage. The author indicates how little effect these will probably have on future manpower supply when he says, "In contrast to the teacher situation no prospect for a significant improvement in the supply of qualified personnel for the care of the mentally ill . . . can be anticipated."

(95)

Gorham, Donald R.
"An Evaluation of Attitudes Towards Psychiatric Nursing Care"
Nursing Research
Vol. 7, No. 2, 1958, pp 71-76

Field: Mental Health
Application: RECRUITMENT

This is a study of the attitudes personnel have toward the activities involved in psychiatric care. Those persons not in the mental health field consider physical care most important. Those persons in the mental health professions think the personal qualities of the nurse and meeting the emotional needs of the patient are most important, while they deemphasize nursing administration and supervision.

The personnel listed the differences between actual and ideal activities which are included in the article.

(96)

Gorman, Mike
Every Other Bed
World Publishing Company,
Cleveland and New York
1956, 318 pages

Field: Mental Health
Application: EDUCATION, FINANCING, REORGANIZATION

The extent of the mental health problem is larger than the attention given to it. Little money is spent on mental health research and there is considerable resistance to psychiatric research. There should be more emphasis on the biological and less on the psychological aspects of mental illness. There are new frontiers opening up in chemotherapy. There is a paucity of psychiatric personnel.

The primary bottleneck against a supply of psychiatrists in adequate numbers is the high cost of medical education.

There is some reason to be optimistic that the situation will improve because of the actions that the governors of the various states have been taking separately and collectively during the decade of the 1950's.

(97)

Gray, H.
"Physicians as Psychotherapists"
California Medicine
Vol. 93
December 1960, pp 361-362

Field: Mental Health
Application: UTILIZATION

To reduce the number of persons waiting for therapy treatment nurses have been given psychiatric training. Under a 16-month program the nurse works half of the time as a child psychiatrist. General practitioners are also practicing as psychotherapists with consultations with a psychiatrist-supervisor when necessary. This works out well, as many patients go to their G.P. first for treatment. At the Santa Barbara

Mental Health Clinic the cost per patient has been low, as 46 percent of the total hours received by patients were given by three volunteer medical psychotherapists. Many patients are not ill enough to need extensive psychotherapy.

(98)

The Federal Government and Education
U. S. Government Printing Office,
Washington 25, D. C. 1963, 178 pages

Field: All Professional Fields
Application: EDUCATION, FINANCING

The report gives a breakdown of federal funds for education as to their use in 1962. Most of the funds went to 100 universities with graduate schools. It was suggested that the remaining 1,900 institutions of higher education also receive funds. In both the Area Redevelopment Act and the Manpower Training Act, provision is made for vocational training. Prisoners and Indians also receive federal aid for education. In military medical schools students attend without paying tuition and receive pay in return for three years active duty.

To predict successfully the nation's manpower requirements there is a need for organized action and cooperation. Perhaps some agency could be responsible for continued scrutiny of the manpower needs in all fields, and as legislation and budgetary requests are proposed, the agency could relate the requests to the overall availability of manpower. "Meeting the manpower needs for medical research will necessitate a steadily growing involvement of well-qualified Ph.D.'s in the sciences. This calls for (1) expansion in graduate enrollment, (2) doubling Ph.D. output, and (3) enlarging the scope and enhancing the attraction of careers in medical and health-related research." Between 1960-1962 there was an 11 percent rise in the number of bachelor's degrees granted in the science, chiefly attributable to increases in the pre-medical field and in mathematics. Degrees in physical sciences have shown no rise; degrees in engineering have declined.

(99)

Greenberg, D. S.
"Fellowships: White House Prods Federal Agencies to Increase and Harmonize Graduate Support"
Science
Vol. 139, March 1, 1963, p 818

Field: All Professional Fields
Application: EDUCATION, FINANCING

A discrepancy in stipends offered by foundations has caused a flow of students into the area of the highest paying program, i.e., National Aeronautics and Space Administration. A plan to make fellowships consistent and provide part-time jobs for others will reduce this problem. Federal agencies are now urged to consider:

1. raising the stipends to encourage more students to undertake graduate work,
2. arriving at some mutually acceptable stipend level.

(100)

Greenberg, D.S.
"Manpower Race: Panel Offers Proposal to Turn Out More Scientists, Engineers"
Science
Vol. 138, No. 3547
December 21, 1962, pp 1314-1316

(100)

Field: Engineering, Science
Application: EDUCATION, FINANCING

In a report from the President's Science Advisory Committee it was recommended that financial support, training grants to smaller institutions, and the strengthening of centers of excellence would turn out more scientists and engineers.

(101)

Grinker, Roy
"Teaching Psychiatry to Physicians"
American Journal of Orthopsychiatry
Vol. 27, No. 4
October 1947, pp 617-621

Field: Mental Health
Application: EDUCATION

At a Don Ce-Sar program a number of physicians lived for four weeks, day and night, with teachers and patients while receiving course instruction and doing practical work. The students treated patients and held conferences with the other students present. "I do not wish to stereotype the teaching of psychiatry to non-psychiatrists. One should always attempt a liberal adaptation of teaching to the needs of the individual students. However, experience suggests that the Don Ce-Sar and the Minnesota experiments of intensified though brief instruction away from home and the burdens of practice, living with patients and teacher, can do much for the general practitioner. For the specialist, I see greater harm than good if his training in psychiatry is not as intensive as if he were to become a psychiatrist."

(102)

Hagopian, Peter B., M.D.
"Using Mental Patients as Emergency Manpower"
Hospitals, Journal of the American Hospital Association
Vol. 37, August 16, 1963, pp 52-53

Field: Mental Health Fields
Application: UTILIZATION

The State Mental Hospital in Danvers, Massachusetts, surveyed its patients of both sexes in both open and closed wards and discovered that 76 percent of them would be willing to help during an emergency or disaster. A practice session showed that the patients could very well be utilized in such situations.

(103)

Hansen, W. L.
University of Michigan Bureau of Public Health Economics and Department of Economics Conference on the Economics of Health and Medical Care - Shortages and Investment in Health Manpower, Sponsored by the U. S. Dept. of Health, Education, and Welfare, Public Health Service, National Institutes of Health, May 10-12, 1962, Ann Arbor, Michigan (unpublished)

Field: Medicine
Application: EDUCATION, FINANCING

The author suggests that there is no shortage of physicians (or at least that the Bane report is not reliable). Numerous reasons are given: the report fails to recognize that physician productivity may continue to rise; the report does not give the range of predicted shortage, etc. Through the relative income approach, the rate of return approach, the empirical evidence approach, and the projective shortage approach, Hansen tries to show that the Bane report is unreliable.

"When the manpower problems of these two professions (dentists and physicians) are put into the context of the rate of return approach, the relative decline in number and quality of applicants to medical and dental schools becomes more understandable. The Bane Report's recommendations--that the training of physicians and dentists be shortened and that the costs of training be reduced through more grants and loans--are clearly designed to stimulate a greater inflow of new entrants. While a reduction in the total costs of training immediately raises the rate of return, the eventual increase in stock practitioners will work to reduce average earnings and thus the rate of return, in effect neutralizing the effect of the reduction in cost. However, a greater amount of services will then be available through the larger stock of practitioners."

(104)

Higher Education in the United States: The Economic Problem,
(Ed. Seymour E. Harris), Harvard University Press, 1960, Cambridge, Massachusetts, 252 pages

Field: All Professional Fields
Application: EDUCATION, FINANCING, RECRUITMENT

Some of the issues considered in this symposium are:
1. high vs. low tuition,
2. means of recruiting bright students,
3. student loans.

This volume contains the contributions of 47 authors ranging from B. F. Skinner to Dael Wolfle to David Riesman and covers topics ranging from "Teaching Machines" to "Unorthodox Investing". The articles contain a wealth of heterogeneous material worth considering.

(105)

Harrison, G. B.
"Engineering Teaching in Schools"
The Chartered Mechanical Engineer
Vol. 11, No. 5
May 1964, pp 279-282

Field: Engineering
Application: EDUCATION, FINANCING

To interest students in engineering, there is a need for hard facts about the field and about the practical application of knowledge. Engineering projects conducted either during free time or school time can attract students. Use of industrial rejects or government surplus material would cut down on the cost of such projects, though there would still be a need for financial assistance from the profession.

(106)

Hatch, Lucille
"Recruiting in School Libraries"
Library Journal Articles on Recruitment for Librarianship
1962, pp 11-15

Field: Librarianship
Application: CAREER CHOICE, RECRUITMENT

Since students frequently make their career choice early, it is necessary to provide them with career information as soon as possible. This can be done through career days, short term internships, films, and the use of library assistants.

(107)

Hauser, Ernst A.
"The Importance of Science in American Education"
Science
Vol. 113, No. 2945
June 8, 1951, pp 643-646

Field: Science
Application: EDUCATION

Most of our scientists either come from abroad or were educated abroad. Our educational system is too specific; we should de-emphasize rote learning and improve instruction. The author compares educational systems in Germany and the United States.

(108)

Hazeltine, Alen
"To a Master's Degree in Four Years"
American Journal of Physics
Vol. 13, No. 3, pp 160-165

Field: Engineering, Science
Application: EDUCATION

"A curriculum is proposed that will lead to a bachelor's degree in three years and will provide adequate preparation for graduate study in a fourth year, ultimately leading to a Master's degree at the end of the fourth year in any of the broader fields of science or engineering."

(109)

Heller, Francis H.
"Experiment in Brainpower"
Superior Student
Vol. 1, No. 2, pp 5-6

Field: All Professional Fields
Application: EDUCATION

Thirty-one superior students at the University of Kansas participated in a special program. They were allowed special privileges--advanced courses, use of library stacks, etc. The main feature of the program was flexibility of rules and advising. The results were that a majority attained junior standing after three semesters; two became seniors after four semesters; and ten graduated after three years, having taken summer school courses and having participated in research programs. Another significant factor was the maintenance of high grades among these students.

(110)

Helmes, Winifred
"Woman Power and Higher Education"
Journal of the American Association of University Women
Vol. 51, No. 4, May 1958, pp 203-206

Field: All Professional Fields
Application: EDUCATION, MANPOWER RESOURCES, RECRUITMENT

To recruit women into the fields requiring higher education it is suggested that some prominent women in various professional fields feed back information of how they attained and maintain their positions. More part-time jobs should be made available. Many women are willing to take jobs after their children are older, and special recruitment efforts should be made in this area.

(111)

Hendricks, Clifford
"Conservation of One Teaching Resource"
School Science and Mathematics
Vol. 57, No. 1
January 1957, pp 59-62

Field: Teaching
Application: UTILIZATION

Many suggestions have been offered to increase the number of consultants to high school science teachers. The author says this will decrease the already small number of science teachers since such consultants will presumably be drawn from the ranks of the outstanding science teachers. Retired teachers could still be used as teachers after retirement age. Older science teachers who are ineffective in the classroom could perform research or partake in pilot studies. Those with small deficiencies--failing voice or hearing--could be assigned small classes rather than be dismissed.

(112)

Henze, R. E.
"After 20 years -- Technicians or Scholars?"
Science
Vol. 130, No. 3381
October 16, 1959, p 945

Field: Teaching
Application: EDUCATION

Teachers must never stop learning or there will be a significant waste of talent. To combat this the following programs to foster continuing education could be used:
1. summer institutes,
2. refresher courses,
3. research participation,
4. inservice training programs,
5. TV courses.

(113)

Hickernell, L. F.
"Program for Gifted Students to Begin at University of Wisconsin"
Electrical Engineering
Vol. 75, No. 5
May 1956, p 478

Field: Science
Application: COUNSELING, FINANCING, RECRUITMENT

The program was launched to uncover high school students with ability for science and other fields. Its objectives are to assist students financially and with counseling until they complete their degree at the college of their choice. The students not only engage in research at the University, but also discuss their experiences among themselves and with their instructors.

(114)

Holland, J. L.
"Progress of Research in 1961"
School and Society
Vol. 90, 1962, pp 199-202

Field: All Professional Fields
Application: FINANCING

All indexes of wealth were found to be related in a National Merit Scholarship Corporation survey of Ph.D. institutions. Those most highly endowed and financed possessed a larger share of student and faculty wealth. The wealthier institutions attract more wealth faster.

(115)

Holland, John L.
"A Response to the MacLeod-Heist Proposals"
Superior Student
Vol. 3, No. 8, 1960, pp 7-8

Field: All Professional Fields
Application: EDUCATION

Holland discusses the MacLeod-Heist proposals on the objectives of honors programs, and states that high school and college grades and aptitude tests are limited in their application as selection criteria for entrance into honors programs. Lack of student initiative may stem from poor teaching. College could improve if the honors attributes were incorporated into the general program.

(116)

Holland, John L.
"Some Exploration of a Theory of Vocational Choice: One and Two-Year Long Longitudinal Studies"
Psychological Monographs
Vol. 76, No. 26, 1962, 49 pages

Field: All Professional Fields
Application: CAREER CHOICE

Students are divided into six categories according to their preference patterns on the Holland Vocational Preference Inventory. These categories are: Realistic, Intellectual, Social, Conventional, Enterprising, and Artistic.
The theory is one of model orientation (direction of vocational choice) and motivation (level of vocational choice).
The study supported several hypotheses derived from the theory:

1. students with different personal orientations have significantly different attributes,
2. these attributes correspond, generally, with a particular model orientation,
3. the direction of vocational choice is related to the orientations in accordance with the theory.

Several other hypotheses were supported in this study.

(117)

Holland, John W., M. D.
"An Experiment in Medical Manpower Recruitment"
The Journal of the Medical Society of New Jersey
Vol. 61, No. 1
January 1964, pp 19-22

Field: Medicine
Application: RECRUITMENT

The Medical Society of Atlantic County conducted a forum on "Medicine as a Career" before three different audiences: two of students and one of invited guests. All totaled, over 3,000 people attended. The forum resulted in a great increase in student requests for information about the education of the physician and his technical assistants.

(118)

Holzberg, Jules D.
"The Companion Program: Implementing the Manpower Recommendations of the Joint Commission on Mental Illness and Mental Health"
American Psychologist
Vol. 18, No. 4
April 1963, pp 224-226

Field: Mental Health
Application: RECRUITMENT

Four elements which thwart recruitment in the mental health field are:

1. the behavior of the mentally ill,
2. the attitude on the community's part of hopelessness in treatment of mentally ill,
3. the lack of material productivity by psychiatrists,
4. the lack of appeal to the humanistic as opposed to the mechanistic approach to the illness.

To correct this attitude, stress should be laid on the corrective and therapeutic processes. To this end a college companion program of volunteers brings the students into a one-to-one relationship with a mental patient. Holzberg feels that this program should be extended to high school. Also in college, courses are offered where students are companions to mentally ill patients and, due to this experience, many students have altered their vocational goals.

(119)

Houchins, Joseph R.
"The Negro in Professional Occupations in the U.S."
Journal of Negro Education
Vol. 22, No. 3
Summer 1953, pp 405-415

Field: Medicine
Application: EDUCATION, FINANCING, MANPOWER RESOURCES

That Negroes have shown their capability in the professions is a source of inspiration for Negro youth. Much of this inspiration may not have led to further education, however, due to lack of facilities. It was found in a survey of pre-med education in Negro colleges that the acute shortage of Negro physicians was attributable in part to weaknesses in the accredited Negro college programs, with the students experiencing a resultant inability to compete successfully for medical school admission. Necessary factors to improve the situation are: better guidance programs, the use of aptitude tests, and financial assistance.

(120)

Hughes, Raymon M.; Lancelot, William H.
Education, America's Magic
Iowa State College Press
Ames, Iowa
1946, 189 pages

Field: All Professional Fields
Application: EDUCATION

The number of potentially brilliant thinkers is small; every effort to give them the best possible education should be made. Vocational expansion for less able youth may increase the labor force. Education should be made available to all, and free education should be extended to higher levels. To attract and retain teachers there should be salary increases.

(121)

Interstate Clearing House on Mental Health, The Council of State Governments
Action in the States in the Fields of Mental Health, Mental Retardation and Related Areas
Chicago, Illinois
April 1963, 198 pages

Field: Mental Health
Application: EDUCATION, FINANCING, RECRUITMENT, REORGANIZATION, UTILIZATION, VOLUNTEERS

This report shows developments in various state mental health programs; it describes recruitment devices being used and methods of maximizing output of available personnel. It also includes information on research and training, patient care, volunteers, foster care, staffing, organization, committees and legislation.

Recruitment devices mentioned were:
1. utilizing the services of part-time workers and college students,

2. offering stipends and loans,
3. obtaining proper accreditation,
4. circulating brochures and literature,
5. offering raises,
6. offering scholarships,
7. trainee programs.

(122)

Jenkins, Martin D.
"Intellectually Superior Negro Youth: Problems and Needs"
Journal of Negro Education
Vol. 9, No. 3
Summer 1950, pp 322-332

Field: All Professional Fields
Application: COUNSELING, FINANCING, MANPOWER RESOURCES, RECRUITMENT

Problems:
1. "The superior Negro child is less likely to have adequate educational and vocational guidance" than others,
2. . . . is likely to be of a low socioeconomic level and not persist in his education,
3. . . . is less likely to have an intellectually stimulating environment, and is, therefore, less likely to achieve near the upper level of his potentiality."

Answers:
1. identify Negro youth of superior ability through tests and good teachers,
2. give the students adequate counseling,
3. give financial support,
4. conduct research on the problem,
5. recognize that a stable social order will allow him to participate in society.

(123)

Jensen, Reynold A.
"The Physician's Role in Preventive Mental Health Services"
American Journal of Psychiatry
Vol. 111, No. 11
May 1955, pp 857-861

Field: Mental Health
Application: EDUCATION, UTILIZATION

Effective preventive mental health programs must start with pediatricians and other physicians who deal with children. Such physicians should:
1. organize classes for parents during times of stress--particularly the first pregnancy. Their attitudes toward their role and their responsibility to their child can be shaped,
2. deal with parental concern during a child's illness,
3. deal with the parents of handicapped children,
4. prepare a child adequately for surgery,
5. develop a good relationship with the child.

(124)

Johnson, C. Margaret
"The Public Health Nurse in Student Recruitment"
American Journal of Nursing
Vol. 51, No. 12, pp 278-279

Field: Nursing
Application: COUNSELING, EDUCATION, RECRUITMENT

The following are suggestions for personnel recruitment through the public health nurse:
1. know nursing career resources and professional counseling services,
2. be ready to provide up-to-date information on nursing and education,
3. recruit for nursing rather than for a specialization thereof. Offer information concerning opportunities for men, Negroes, and minority groups,

4. keep up-to-date nursing literature and recruitment aids, and let it be known that they are available,
5. keep high school counselors well supplied with literature,
6. check with librarians to see that they have adequate nursing information and literature,
7. consult school superintendents to make sure nursing is adequately represented in career day,
8. make group discussions and individual conferences available to interested students,
9. take part in visits to nursing schools, hospitals, and health departments. These are often deciding factors in the choice of a nursing career,
10. use radio, television, and press coverage for promoting activities.

(125)

Joint Committee on Nursing in National Security
"Mobilization of Nurses for National Security"
American Journal of Nursing
Vol. 51, No. 2
February 1951, pp 78-79

Field: Administration, Nursing
Application: DISTRIBUTION, EDUCATION, RECRUITMENT, REORGANIZATION, UTILIZATION

Recommendations to mobilize nursepower during national emergencies are:

1. develop means to recruit more nurses,
2. interest inactive nurses to return, perhaps through refresher courses,
3. train more practical nurses to assist the R.N.'s,
4. assign nurses to the highest level of skill for which they have been trained,
5. redistribute nurses to give most critical patients first service,
6. improve nursing education,
7. improve administration,
8. reduce turnover as much as possible,
9. give civilian and military nurses the same educational and future employment benefits.

(126)

Jones, Vernon
"Six Suggestions for More Scientists and Engineers"
School and Society
Vol. 84
October 26, 1957, pp 303-306

Field: Engineering, Science
Application: EDUCATION, MOTIVATION

To motivate bright students:

1. provide special workshops, institutes, and advanced courses for the gifted,
2. use science resources to advantage in the form of lectures, demonstrations, trips, audio-visual materials, cooperation between high school and college teachers, summer institutes for teachers, after-school extension classes, conferences, and science fairs,
3. identify science talent through testing. Give special encouragement to able girl students,
4. offer more stimulating teaching through practical demonstrations, trips, and laboratory use,
5. encourage college teachers to serve a liaison function to high school science teachers, who could in turn maintain liaison with junior high school teachers.

(127)

The Journal of Political Economy, Supplement
Vol. 70, No. 5, Part 2
October 1962, 157 pages

Field: All Professional Fields
Application: EDUCATION

In this edition of the Journal a number of labor economics experts have published their views on the "investment in human capital", which is the increasing of a person's individual economic worth by means of some investment--i.e., education.

A vast range of articles from practical considerations to Keynesian econometrics is included.

(128)

State of Kansas Five Year Residency Program in Psychiatry, In cooperation with the Menninger School of Psychiatry
July 1963, 41 pages

Field: Psychiatry
Application: EDUCATION, RECRUITMENT

The State of Kansas Residency Program in Psychiatry is described. The program lasts for five years, three of residency and two of Junior Staff Psychiatry. The high salary of the last two years is distributed over all five. The program has evidently been successful, as Kansas has one of the most effective mental hygiene programs in the United States. The book includes an example of recruiting literature written for prospective candidates.

(129)

Kellian, J. R., Jr.
"Augmenting Our Scientific and Engineering Manpower Resources"
School and Society
Vol. 85
June 22, 1957, pp 213-217

Field: Engineering, Science
Application: EDUCATION, FINANCING, RECRUITMENT

Suggestions to augment our engineering and scientific manpower supply include:

1. identify students of scientific talent early (7th grade),
2. improve high school science teaching,
3. enlist parent aid in urging children to consider a career in science,
4. avoid educating students terminally who have the ability to continue,
5. give high priority to the gifted,
6. increase the number of science majors in liberal arts colleges,
7. award more grants and fellowships for time-off research to college teachers,
8. present stronger graduate programs,
9. establish more technical institutes and junior colleges.

(130)

Kelly, Harry C.
"Trends in Supply of Scientists and Engineers in the United States"
Science
Vol. 120, No. 3105, July 2, 1954
p 5A

Field: Engineering, Science
Application: EDUCATION

There has been a large increase in scientists in the last 30 years. Still only 0.5 percent of the total population are scientists and engineers. Many promising high school graduates do not go to college. Education is plagued by a shortage of teachers and by low salaries.

(131)

Kidd, Charles V.
"Mobilization of Scientific, Engineering, and Medical Manpower: An Interim Report"
Science
Vol. 113, No. 2948
June 29, 1951, pp 737-741

Field: Engineering, Medicine, Science
Application: REORGANIZATION

It is proposed that a single agency should be given authority in the manpower field. In the discussion of military manpower supply it was suggested that college students receive deferments. There is a need for a reasonable division of medical manpower between military and civilian population. An exchange of reservists among the military branches may make this possible.

(132)

Kowitz, G. T.
"Problems in Teacher Utilization"
The American School Board Journal
February 1959, pp 24-26 and 56

Field: Teaching
Application: ANCILLARY PERSONNEL, REORGANIZATION, UTILIZATION

Two directions being taken to utilize teachers better are the use of aids, clerical assistants, and automation (devices controlled by the students to relieve the teacher of routine work), and improvement of teacher effectiveness through audio-visual equipment. A re-scheduling of school time (shorter summer vacation) might help solve the problem, but public opinion against innovations limits progress.

(133)

Kubie, Lawrence S.
"Need for a New Sub-Discipline in the Medical Profession"
Archives of Neurology and Psychiatry
Vol. 18, No. 3
September 1957, pp 283-293

Field: Psychiatry
Application: REORGANIZATION

The solution of the shortage of personnel in psychiatry is a development of a new profession--Doctorate of Medical Psychology. There is particularly a need for teachers from the behavioral sciences. This new sub-discipline would increase the amount of men in the field. The author includes a detailed proposed curriculum and administration plan. Carefully conducted pilot tests would show if the plan is feasible. Many problems would have to be worked out--can the medical psychologists give medications for sleep, etc.

(134)

Kubie, Lawrence S.
"Research in Psychiatry is Starving to Death"
Science
Vol. 11, No. 3010
September 5, 1952, pp 239-243

Field: Medicine
Application: FINANCING

In the author's opinion, if more money were spent on psychiatric research, more capable personnel would enter the field. Fifty percent of the regular hospital funds are spent for research while only 1/5 to 1/15 in a psychiatric hospital is spent for research. The ratio of psychiatrists to hospital beds should be raised. One hundred to two hundred dollars per bed, rather than thirty to forty dollars, with 75 percent for research personnel and activities, should be allowed.

(135)

Landman, Henry J.
"Educating Superior Students"
Journal of Higher Education
Vol. 29, No. 5
May 1959, pp 271-274

Field: All Professional Fields
Application: EDUCATION

Every person should be educated to the limits of his own capacity. Because of the democracy of our educational system, bright students are taught as though they were normal students. Also, teachers focus their attention on the dull students, leaving the bright ones to fend for themselves. Those schools which are segregated by intelligence level cause social and emotional conflicts. This democratization of education has led to lower college standards and penalizes the bright student. The solution lies in special facilities of accelerated education for bright students. There has been some experimentation with this idea. The author proposes special high schools and colleges for such students.

(136)

Langhorne, M. C.
"A Unique Regional Program of Psychological Research and Training in the South"
American Psychologist
Vol. 11, 1956, pp 323-326

Field: Psychology
Application: EDUCATION, FINANCING

The program discussed includes the recognition of special Negro talent. During their junior year, students may be sent to Fisk University where they may subsequently receive a B. A. from the transfer college and an M. A. from Fisk. A scholarship fund is available for outstanding students.

"Joint planning and development of advanced education and research may mean that the individual (Southern) states can avoid duplication of university and agency facilities through reliance on those of their neighbors. Each institution can, in a sense, concentrate the money saved. . . to provide better programs of higher education."

(137)

Lawrence, Paul F.
"Vocational Aspirations of Negro Youth of California"
Journal of Negro Education
Vol. 19, No. 1
Winter 1950, pp 47-56

Field: All Professional Fields
Application: ANCILLARY PERSONNEL,
CAREER CHOICE,
COUNSELING, EDUCATION

Because of inadequate counseling there is a lack of understanding among Negroes regarding their career choice and the possibility of attaining it.

Recommendations are:

1. that schools familiarize themselves with pupil aspirations and occupational trends to facilitate planning the most effective educational program for each student,
2. that inservice training for teachers and counselors be given in the use of aids--census, predictive devices, tests,
3. that drop-outs be interviewed as to earlier occupational choices and that a subsequent

follow-up be conducted to isolate causes.

(138)

Leese, Joseph
"The Gifted Need Their Parents First"
American School Board Journal
June 1958, pp 25-27

Field: All Professional Fields
Application: EDUCATION

"A critical problem of the gifted is to get them to apply themselves near their level of capacity. Psychologists state that the formative years are instrumental in developing the ability to bear down intellectually. A high level of gifted performance needs a home environment of parental (1) love and affection, (2) encouragement, and (3) balanced vigilance and provisions for good study arrangements."

(139)

Lesperance, J. P.
"Work Study and Dentistry"
Time and Motion Study
Vol. 13, No. 1
January 1964, pp 42-44

Field: Dentistry
Application: UTILIZATION

Three techniques of work study used in dentistry are:

1. a random sampling of employees' work to see how their time is used,
2. a memomotion study--this technique involves the use of the motion picture camera where one frame is taken per second rather than the usual 16 per second. This shortens the viewing time and reduces the cost of the film,
3. job description studies which are based on job analyses, e.g., if the dentist is about to lay down his pen after making a notation of his patient's record the entry on the observation sheet records would be paper work.

(140)

Levine, Maurice
"Psychiatry for Internists"
American Journal of Orthopsychiatry
Vol. 17, No. 4
October 1947, pp 598-601

Field: Psychiatry
Application: EDUCATION

A program of lectures and discussions in psychiatry is offered to interested internists one evening per week. The program emphasizes psychiatric knowledge which might be helpful in internal medicine. "Several of the more active participants now attend my graduate seminar on psychotherapy, and we hope that some of them will take part in a psychosomatic outpatient clinic now in the process of organization."

(141)

Lewis, Lanora G.; Bryan, J. Ned; Poppendieck, Robert
New Dimensions in Higher Education, No. 11
Talent and Tomorrow's Teachers -- The Honors Approach, U. S. Dept. of Health, Education, and Welfare, U.S. Government Printing Office: Washington 25, D. C., 1963, 83 pages

Field: Teaching
Application: EDUCATION, RECRUITMENT

A high quality honors program can recruit superior students into teaching. Some major features of such a program are: early identification and selection of students; initiation of program as soon as students enter college; programming applicable to general education, specialization, and careers; varied progression through special courses, independent study, and accelerated study; use of small classes, advising, research participation, graduate work for undergraduates, and honors programs for teachers.

At Colorado, education honors programs are taken by non-majors, and some students change their plans and decide to become teachers. Western Washington State emphasizes the extremely capable but sometimes underachieving prospective teacher. Information is also offered on ability grouping, and a warning is given that the average student must not be neglected in favor of the superior one.

(142)

Lieberman, Myron
The Future of Public Education
University of Chicago Press, 1960
294 pages

Field: Teaching
Application: FINANCING, RECRUITMENT

The author makes many suggestions for attracting and retaining teachers. Among these are:

1. more Federal support for education,
2. higher teacher salaries,
3. more utilization of older teachers to decrease the teaching load and be employed on a part-time basis.

The author further states that studies should be made on how to minimize mental retardation among the underprivileged, thus providing more capable students for high school and college.

(143)

London, H. H.
"Our Manpower Problem -- Implications for Guidance and Education"
American School Board Journal
May 1959, pp 26-28 and 64

Field: All Professional Fields
Application: COUNSELING, MANPOWER RESOURCES, RECRUITMENT, UTILIZATION

Negroes are at a disadvantage and should be trained for productive work. Attention can be given through schools, employers, labor organizations, and government agencies. Other valuable manpower resources are women, older people, and the rising tide of youth.

Public opinion, discrimination, and misuse of psychological data have kept some capable people out of jobs needing to be filled. One-third of high school graduates have no occupational plans. Subsidizing certain occupations to attract workers has been tried in the past but is no solution. The answer is a manpower management program which would include the following:

1. keeping up with labor supply and demand, especially in critical occupations, through Department of Labor sources of information, census reports, local occupational surveys, and the use of advisory committees,
2. testing and classification of youth as they pass through school to ascertain their assets and liabilities as potential workers in the different occupations,
3. vocational counseling service reaching both students and their parents. Counseling should take positive steps to develop interests in those occupations which need people. Vocational guidance must contribute to:
   a. balance between supply and demand,
   b. alleviation of occupational maladjustments,
   c. optimum utilization of human resources.

(144)

Longhridge, Donald H.
Book review of Technical Education: Its Aims, Organization and Future Development by P.F.R. Venables
Science
Vol. 124, August 10, 1955, p 278

Field: All Professional Fields
Application: EDUCATION

In this report of technical education in Great Britain the author includes the idea of part-time work and part-time study. He points out the pitfalls and advantages for certain classes of students for combined industry-college training as against the more common four year education course. He says there is a need to fire the students' imagination; he discusses course content, academic freedom, administration, and financing.

(145)

Lynch, T.
"Psychiatric Services in Czechoslovakia"
Journal of the Irish Medical Association
Vol. 54, January 1964, pp 17-20

Field: Psychiatry
Application: EDUCATION

This article describes the organization of services for the mentally ill in Czechoslovakia. Before World War II there were 46 psychiatrists in the country while now there are 470, with 350 in training. This increase may be due to the emphasis placed on psychiatry in the medical curriculum. Six months out of a six year course are spent extensively on psychiatry. The pay doubles when one becomes a specialist.

(146)

MacBain, Nancie; Schumacher, L. Richard."Premedical Students Learn Hospital Routines as Volunteers"
Hospitals, Journal of the American Hospital Association
Vol. 37, July 16, pp 73-75

Field: Medicine
Application: EDUCATION, MOTIVATION, VOLUNTEERS

Considering the need for trained professional volunteers and the decline in high quality applicants for medical school, it is helpful to interest and motivate premedical students. The Abington Memorial Hospital (Abington, Pennsylvania) has a volunteer program for premedical students intended to help accomplish these goals. Volunteers learn about the practice of medicine from the staff both in a formal context and informally. The program operates during the summer, with each volunteer expected to devote at least ten hours a week. The student is given the opportunity to observe various departments in action. In the four years of the program, ten students have participated, nine of whom have definitely decided on a career in medicine. Interviews suggest that despite the fact that they were premeds, the volunteer experience was sometimes the deciding factor on whether they would continue on to medical school. Thus the students got invaluable experience, and their time allowed better utilization of the staff professionals.

(147)

MacCurdy, Robert D.
"Goin' Fishin'--For Scientists and Engineers"
The Science Teacher
October, 1952, pp 229-230

Field: Engineering, Science
Application: RECRUITMENT

The author lists some of the activities in which industry should engage to help train more scientists. The suggestions include encouragement of students or the assistance of teachers.

(148)

MacLeod, Robert; Heist, Paul
"Research Proposals"
Superior Student
Vol. 3, No. 6, October 1960, pp 3-7

Field: All Professional Fields
Application: EDUCATION, MOTIVATION

The authors suggest that the objectives of honors study include:

1. identification of talent,
2. assessment of student motivation,
3. retrospective evaluation of institutional resources.

Talent is defined as energy plus application.

(149)

Main, Charlotte; Wyckoff, Lillian
"A Plan for Training Teachers"
School Science and Mathematics
Vol. 57, No. 1
January 1957, pp 18-19

Field: Teaching
Application: EDUCATION

The Baldwin School in Bryn Mawr offers young teachers the chance to study for their Masters' at nearby Bryn Mawr, University of Pennsylvania, etc. to attract them to Baldwin. The M.A. takes three or four years under this plan. The teacher trainees have discussions with department heads at the schools.

(150)

Mannino, Anthony J.
"Men in Nursing"
American Journal of Nursing
Vol. 51, No. 3
March 1951, pp 198-199

Field: Nursing
Application: EDUCATION, UTILIZATION

Male nurses are needed, especially to attend to the many male patients who are now being cared for by physicians and psychiatrists but do not need that level of care. There is discrimination in nursing which is lately being overcome. "In order to utilize the services of men nurses to the best advantage, several basic principles should be considered by all who are interested in their instruction and employment."

1. The selection and educational programs for men students should be based on the same principle as those of women.
2. At least one man should be on the staff of a co-educational nursing school to help counsel men students.
3. Male nurses deserve the same professional recognition as do women. Unskilled duties should be assigned to attendants and the male nurse should be used at his highest level of competence.

(151)

Mark, Steven J.
"What Schools Can Do To Help Meet the Problems in Science Teaching"
School Science and Mathematics
Vol. 58, No. 7
October 1958, pp 558-559

Field: Teaching
Application: UTILIZATION

Methods to help solve many science teaching problems are:

1. release science teachers from study hall duties and non-science extra-curricular activities,
2. develop high esteem for scholarship among parents and students,
3. keep students informed of available scholarships,
4. hold classes on Saturday mornings and during summer vacations,
5. present science assemblies with films, speakers, and demonstrations,
6. raise teacher salaries and improve working conditions and facilities,
7. begin science courses in kindergarten.

(152)

Committee on Medical Care, Maryland State Planning Commission
Medical Education and Research Need in Maryland
Publication No. 117
January 1962, p 167

Field: Medicine
Application: EDUCATION, UTILIZATION

In this brief work, the authors attempt to come to terms with the problem of supplying America with doctors. Their most important recommendations are:

1. utilization of Negroes,
2. a national approach to the problem,
3. two-year basic medical and science schools.

The book points out the series of problems which face the planner. First, he must select students who are not likely to drop out while making sure that enough apply. Then, he must have sufficient personnel and facilities to educate them. All of these problems are considered in this study.

(153)

Mayor, John R.
"Credit in Education?"
Science
Vol. 123, No. 3204
May 25, 1956, p 919

Field: Teaching
Application: EDUCATION

In a survey it was found that 200 colleges and universities are offering science and mathematics courses to high school teachers for credit. Those who give credit, as opposed to those who do not, have a larger enrollment, teachers receive a better background in the sciences, and they can potentially teach more.

(154)

McClelland, David
"The Recruitment of Scientific Psychologists"
American Psychologist
Vol. 9, No. 12
December 1954, pp 811-813

Field: Psychology
Application: EDUCATION, FINANCING,
RECRUITMENT

Psychology fails to attract top students because university psychology teachers are not interested in recruiting. There is a lack of information in the secondary schools, and the three-year Ford Foundation grant for summer research stipends for undergraduates given by the Behavioral Sciences Division to the Social Science Research Council is not adequately publicized. Hence, it appears that expansion of "physical plant" is not the solution to the problem of insufficient numbers of students entering the field.

(155)

McKeever, Mary F.; Flance, I. J.
"'Home Helpers' in a Home Care Program"
Hospitals, Journal of the American Hospital Association
Vol. 36
February 16, 1962, pp 48-53

Field: Health
Application: ANCILLARY PERSONNEL

Home helpers assist ill and handicapped persons in a home care program. The paid workers perform no medical or nursing services, but rather they relieve the ill of burdensome responsibilities (laundry, dishes, cooking, etc.).

(156)

McKerracher, D. G.
"A New Program in the Training and Employment of Ward Personnel"
American Journal of Psychiatry
Vol. 106, No. 4
October 1949, pp 259-264

Field: Mental Health Professions
Application: EDUCATION, RECRUITMENT

In Saskatchewan therapeutic care of the patients was improved by structuring staff members into therapeutic groups. It was felt that the calibre of the therapy would not suffer since previously there was very little therapy due to the severe manpower shortage. A three-year course (500 hours) was offered. Recruitment was carried out through newspaper ads, radio and circulars. Many high school graduates were interested. The psychiatric nurses who had been trained were put in charge of seven or eight patients.

(157)

Mead, B. T.; Fishner, J. J.
"A Different Project in Post-graduate Psychiatric Education"
Journal of Medical Education
February 1963, pp 103-110

Field: Psychiatry
Application: EDUCATION

In 1959 at the University of Utah a special project was devised using local seminars to create more interest in psychiatry. The lecture method reached more people more completely and more uniformly and allowed the physician students to remain anonymous. The group method offered active participation but had a few disadvantages.

(158)

Meehan, Marjorie C.
"Psychiatrists Portrayed in Fiction"
Journal of American Medical Association
Vol. 188, No. 3, pp 255-258

Field: Psychiatry
Application: RECRUITMENT

This is a discussion of the portrayal of psychiatrists in modern fiction. The author's descriptions are of psychiatrists as sadists, noble persons, magicians, religious leaders, unfeeling scientists, useless nonentities, and complex individuals. She concludes pointing out that many writers disparage psychiatrists.

(159)

Meister, Morris
"The Ford Foundation Experiments -- Their Implications for the Science Education of High-Ability Youth"
The Science Teacher
April 1953, pp 107-110

Field: Science
Application: ADMINISTRATION, EDUCATION, UTILIZATION

This report of some of the Ford Foundation's activities concerns acceleration and enrichment programs for talented youth. Individual experiments included the following:

1. three colleges studied themselves and three representative schools. Inconsistencies in curricula and administration were observed and remedies were applied,
2. a successful experiment was performed to determine the results of early admission to college,
3. twelve schools and colleges studied the possibility of offering high school courses with college credit.

(160)

Mensh, Ivan Norman
"Psychology in Medical Education"
American Psychologist
Vol. 8, No. 2
February 1953, pp 83-85

Field: Medicine
Application: EDUCATION

A three-point program was suggested to train physicians more effectively in giving modern care:

1. in undergraduate education, de-emphasize physics and chemistry but stress psychology, anthropology, and sociology,
2. medical students should know the surroundings of the patient and make visits to the institution under supervision of the social worker,
3. doctors and nurses should train to work together as a team.

(161)

Meyerhoff, Howard A.
"Graduate Students and the Selective Service"
American Psychologist
Vol. 9, 1954, pp 235-236

Field: Science
Application: SUPPLY

Selective service induction of graduate students, many even as close as one month to their Ph.D.'s, cut the available scientific personnel drastically in 1954. Assistants are needed by professors, and the experience is invaluable to the student. "As matters stand, Selective Service has virtually taken over our system of graduate instruction in science. It has drastically cut the number of students, and is thus disrupting the supply and flow of carefully selected manpower into fields where there are already disturbing shortages."

(162)

Middleton, John
"Prejudices and Opinions of Mental Hospital Employees Regarding Mental Illness"
American Journal of Psychiatry
Vol. 110, No. 2
October 1953, pp 133-138

Field: Mental Health
Application: RECRUITMENT

The following conclusions were made after surveying the attitudes of mental health employees:

1. the less educated is more prejudiced in his thinking of mental illness,
2. younger age groups are less prejudiced than older more experienced workers,
3. non-attendant groups are equally prejudiced compared to attendants and medical workers,

4. high employee standards are needed,
5. all types of employees should receive immediate orientation,
6. such courses should be repeated periodically for older employees.

(163)

Middlewood, Esther L.
"Why do Students Drop Out?"
American Journal of Nursing
Vol. 46, December 1946, pp 838-840

Field: Nursing
Application: EDUCATION

There has been a rapid loss of both graduate and student nurses. This is because too little concern is shown for the student's welfare. There is need for a more adequate student guidance program, including training in mental hygiene, which would enable the student to gain more insight. The author believes that student nurses are being overworked. Their social life is limited. She also believes that a greater informality at the school would help.

(164)

Miernyk, W. H.
"Engineering Faculty Requirements"
Reprinted from the Proceedings of the Conference on Engineering and Scientific Education
Chicago, Illinois
October 31 - November 2, 1957
Reprint No. 8, pp 60-65

Field: Teaching
Application: ANCILLARY PERSONNEL, RECRUITMENT

Some suggestions on recruitment to relieve the engineering teacher shortage are:

1. publicize the shortage to students and tell them about the opportunities in the field,
2. correct misinformation and supply facts,
3. though the salary of teachers is fairly low, it can be augmented through outside research; stress the opportunities to augment their income,
4. relieve teachers of burdening routine jobs which in turn will provide good feedback to the students.

(165)

Miller, Vera V.
"Education of the Gifted"
American School Board Journal
September 1959, pp 23-26, and 66

Field: All Professional Fields
Application: EDUCATION

Preliminary results of an experiment comparing methods of educating gifted children have been published. The alternate methods were the following:

1. acceleration,
2. segregation,
3. enrichment through partial segregation,
4. enrichment within the class.

"While it appears that there are no great advantages to any particular plan, academically speaking, as measured by the usual achievement tests, any effort to help these pupils use their potential wisely undoubtedly pays real dividends."

(166)

Mills, Clarence A.
"NSF and Scientific Manpower Problem"
Science
Vol. 116, No. 3022
September 28, 1952, pp 601-603

Field: Science
Application: EDUCATION, FINANCING

Even well equipped research institutions have a critical manpower shortage. Students with grants from smaller institutions often go to the larger ones, thus leaving the "backward" area even less prepared. To remedy this the smaller institutions should be stressed in order not to overcrowd the well-known ones, while utilizing as many facilities and exposing as many students to science as possible.

Because potential scientists may live in isolated areas and in order that latent talents be discovered early in life, it is necessary that exposure to science be widespread and adequate. To achieve this, emphasis should be placed on grants, on retaining good teachers who have participated in research, and on a distribution of funds which will also include poorer institutions.

(167)

Moore, Helen-Jean
"Call to Arms-Recruitment"
American Library Association Bulletin
(letter to the editor) June 1962
pp 471-473

Field: Librarianship
Application: RECRUITMENT

Among the devices being used by the Pennsylvania Library Association to recruit and alert the general public to the possibilities in librarianship are: speakers, publications, publicity devices, advertisement cards in public vehicles, mail, and an information service. The results are positive.

(168)

Moore, Pamela
"The Individual Aspect of Recruiting"
Adult Leadership
Vol. 11, No. 6
December 1962, pp 169-170

Field: All Professional Fields
Application: COUNSELING, RECRUITMENT

The author stresses what the individual can do in recruitment by foreign student sponsorships, serving as counselors, in career days, on recruitment committees, and on speaker panels. The retired or temporarily withdrawn persons are particularly valuable as sources for the above.

(169)

More, Douglas M.
"A Note on Occupational Origins of Health Service Professions"
American Sociological Review
Vol. 25, No. 3
June 1960, pp 403-404

Field: Medicine
Application: RECRUITMENT

Dental students and medical students were compared on the occupational status of their fathers. It was decided that there was little difference, although fathers of medical students rated higher in most cases.

(170)

Morse, Arthur
"Bay City Beats the Teacher Shortages"
Collier's
November 11, 1955, pp 37-41

Field: Teaching
Application: ANCILLARY PERSONNEL, RECRUITMENT

Many of Bay City, Michigan's previously unused talents were summoned as teachers' aides. Twenty-six percent of the teacher's time had hitherto been used on non-teaching jobs. However, with an aide the teacher could handle one and one half times as many students, and they learned more.

The program had recruited aides as teachers because many of the aides have decided to go to college and work for their credential due to their stimulating experience in the classroom.

(171)

Moss, James H.
"Nursing Service Applications of Work Sampling"
Hospitals, Journal of the American Hospital Association
March 16, 1962, pp 69-70

Field: Nursing
Application: UTILIZATION

Work samplings determine the amount of work being performed at different skill levels. This can establish requirements for non-repetitive professional and technical services. Questions to be answered would be: "For the methods we are using and the service we are providing how many people of various skill levels do we need?" and "How much time are our registered nurses spending on tasks which can be performed by other people?" The method involves a definition of services and qualifications for those who do them, and random observations.

(172)

Nathan, Norman
"Arrive at 65"
Journal Higher Education
Vol. 27, No. 4
April 1956, pp 213-214

Field: All Professional Fields
Application: UTILIZATION

The difficulties in retaining older personnel are enumerated. The solution is their retention on a part-time basis.

(173)

National Association of Social Workers, Subcommittee on Utilization of Personnel
Utilization of Personnel in Social Work, NASW, February 1962

Field: Social Work
Application: UTILIZATION

Because of the chronic acute shortage of social workers with full professional education, the National Association of Social Workers must accept the responsibility of providing guidelines for the proper utilization of individuals with various levels of education, and of helping community planners to determine priorities in their work. The method described (of assigning jobs according to the educational level of the individual) ensures that persons with inadequate training will not deal with the more vulnerable clients, and that they will be properly utilized.

A resume of other social work studies and experiences is provided, and the question of how to determine, first, the relative need for controls on worker behavior, and second, the kind of controls appropriate to a particular situation, is answered in terms of the two variables of client vulnerability and worker autonomy. Several examples of the use of these criteria are cited, objections to them are answered, and proposals for the next stages in developing the criteria are devised.

(174)

National Institute of Mental Health
Report of the Surgeon General's Ad Hoc Committee on Mental Health Activities
Mental Health Activities and the Development of Comprehensive Health Programs in the Community
U. S. Department of Health, Education and Welfare Public Health Service
August 1962, 41 pages

Field: Mental Health
Application: COUNSELING, EDUCATION, SUPPLY, UTILIZATION

The report gives suggestions on how health officers can aid in the mental health field and how mental health personnel can take advantage of existing health facilities. Nurses, volunteers, part-time paid high school employees, public health personnel, non-psychiatric physicians, lawyers, teachers, and clergy can all assume some responsibility in the prevention of mental illness and in the care, treatment, and rehabilitation of mental patients. Inservice training and academic courses can prepare non-professionals for their part. Cases can be found early through existing health services--child clinics, schools, etc.

Three areas of concern for the Ad Hoc Committee on Mental Health and Facilities are:
1. dissemination of literature and films,
2. conferences with teachers concerning problem children,
3. counselors' aid in vocational rehabilitation.

The Committee indicated that coordinated planning with public health officials would cut down on wasteful duplication. It was found that states which support departments devoted exclusively to mental health have larger budgets than ones which include it under public health. The appendices relate this report to other programs.

(175)

National Institute of Mental Health, Training Branch. Survey of Funding and Expinditures for Training of Mental Health Personnel, 1960-1961
January, 1963 149 pp.

Field: Mental Health Fields
Application: EDUCATION, FINANCING

"This study is an attempt to obtain an estimate of the order of magnitude of funds expended annually (1960-1961)in the United States for the training of mental health personnel."

Conclusions of the study area that in 1960-1961 approximately $106 million was spent for the training of mental health personnel, not including expenditures by voluntary and locally financed public facilites for inservice and student training. Monies spent on training in the four core disciplines, graduate and employee service training, and the training of students, volunteers, and other groups are identified and discussed according to discipline.

This survey also deals with sources of income for mental health training programs; characteristics of trainees in the four core groups and of professional training staff in psychiatric training centers; Federal and State support of training of mental health personnel; and expenditures and funding for community mental health training programs.

(176)

National Institute of Mental Health
Training Grant Program: Fiscal Years 1948-1961
U. S. Department of Health, Education and Welfare

September 1962, 63 pages

Field: Mental Health
Application: UTILIZATION, EDUCATION

This book describes the history of the NIMH training grant program and includes details of the ways in which money has been spent and how the program has changed over the years.

Since 1952, the following programs have been developed:

1. pilot projects to stimulate new methods of teaching in the field of mental health,
2. grants for persons going into teaching,
3. stipends for individuals of outstanding competence,
4. psychiatric training for undergraduate nursing students,
5. part-time stipends for medical students to allow them to do extra-curricular work in psychiatric research.

Programs have also been initiated to:

1. broaden the research training of persons in mental health,
2. train general practitioners in psychiatric practices,
3. educate medical students in the study of human behavior.

This report makes no pretense of explaining the effects, or even of relating the results of, the training grant program.

(177)

National Manpower Council
"Summary of Conference Findings", Proceedings of a Conference on the Utilization of Scientific and Professional Manpower
Columbia University Press, New York 1954, pp 177-184

Field: All Professional Fields
Application: EDUCATION, UTILIZATION

Developed in the Conference were these significant considerations:

1. demand for scientific and professional personnel is likely to remain strong throughout the rest of the decade,
2. the fields of medicine and teaching are characterized by conditions of chronic shortage,
3. the low birth rate of the 1930's has placed a limit on students in the professions.

Wastage of utilization of manpower is partly due to the various forms of discrimination.

Approaches to securing more effective utilization of manpower:

1. transference of work to lower echelons,
2. increased capital,
3. incentives to prevent wasteful turnover,
4. new work patterns of cooperation to improve output,
5. reassessment of appropriateness of education and training of professionals.

(178)

Position Statement on National Service Corps
National Social Welfare Assembly Report, January 15, 1963

Field: Social Work
Application: RECRUITMENT, UTILIZATION

The President's committee has explored the feasibility of a national service corps as a means of stimulating voluntary service. Potential contributions cited by the committee are:

1. a modest expansion of existing welfare,
2. a new concept of service in the investment of a year of service with remuneration at subsistence level,

3. the opportunity for young adults to explore aptitudes and possible careers,
4. the chance for retired persons to use their knowledge, skill and experience to meet the needs of others.

The basic concept of the Social Welfare Service is to help people to help themselves. In this program, community leaders would be involved in planning, and the Corps would assume responsibility for:

1. stimulating public and voluntary organizations to develop service programs,
2. helping to create committees which would recommend priority of services,
3. consultation with voluntary and governmental agencies dealing with related interests and resources,
4. providing professional workers to supervise program,
5. encouraging national voluntary organizations to initiate or participate in designing projects.

The focus of the project should be on those communities where few services are available. An Advisory Council would be established in these communities to review and recommend projects.

(179)

Niemeyer, John H.
"Career after 40"
Journal of the American Association of University Women
Vol. 51, No. 3
March 1958, pp 153-155

Field: Teaching
Application: MANPOWER RESOURCES

Many women over forty are entering the teaching profession, bringing it maturity as well as strengthened numbers. Such women want to do something useful and interesting, though many feel incapable of returning to college to earn a degree. Perhaps special arrangements should be made such as provision for steady and dependable child-care in the home. With the present teacher shortage, this resource cannot be overlooked.

(180)

Nunnaly, J.; Kittross, J. M.
"Public Attitudes Toward Mental Health Professions"
American Psychologist
Vol. 13, No. 10
October 1958, pp 589-594

Field: Mental Health
Application: RECRUITMENT

Ten mental health fields were rated by members of the Opinion Panel of the Institute of Communications Research. The mental health professions are generally regarded favorably; however, the public attitude is definitely more favorable toward those professions identified with physical health than with mental health. This may be because the public knows more about the former. The professions which begin with "Psych-" were all rated quite similarly. The low education group placed higher values on mental health professions than did the high education group.

(181)

O'Gorman, G.
"Recruitment and Training of Mental Nurses"
Lancet
September 23, 1961, p 708

Field: Nursing
Application: ANCILLARY PERSONNEL,
EDUCATION, RECRUITMENT

Mental nurses get unexciting routine

work, short vacations, and low wages. Though the nurse has much contact with the patient, specialists take over for rehabilitation, therapy, and other jobs. A change in the training of nurses and ancillary workers is needed. A proposed plan is that the nurses study for a year in the care of mentally ill. They may stretch the course out over two years. At the conclusion they take an exam, upon which, if they pass, they receive a pay increase. Further specialized courses should be available for continual pay increases upon their completion.

(182)

Olsson, David E.
"An 'Active Reserve' Program for Registered Nurses"
Hospitals, Journal of the American Medical Association
Vol. 37, May 1, 1963, pp 42-43

Field: Nursing
Application: ANCILLARY PERSONNEL, RECRUITMENT, UTILIZATION

In common with many other hospitals, the San Jose Hospital in San Jose, California, went through the usual phase of grappling with the problem of nursing shortages. Aides, ward clerks, and other auxiliary personnel were hired to ease the burden of the nurse. The hospital provided for tape recording of case records, instituted a "refresher course", and even raised salaries; however the shortage continued.

An active nurse reservist program to get the help of part-time nurses was undertaken. Through the program, inactive registered nurses who have been out of the field for more than five years receive lectures. A continuous reserve program for about 60 nurses provided the hospital with the equivalent of eight additional full-time staff nurses. After several years of experience with the program, it has been found that approximately two nurses a month convert to full-time or part-time regulars from their irregular part-time service. The program is simple to organize and administer, and, above all is effective in producing working nurses.

(183)

Ostlund, Leonard A.
"Occupational Choice Patterns of Negro College Women"
Journal of Negro Education
Vol: 26, No. 1
Winter 1957, pp 86-91

Field: All Professional Personnel
Application: CAREER CHOICE

A vocational choice inventory was sent to 87 Negro college women. Most students said they had decided on the general field of study at approximately age 12 with more specific plans having been made three years later. "The majority suggested further vocational guidance, advisement, and counseling services in college." More than half of the decisions were due to the influence of another, usually a teacher. The reasons for choosing various careers were: enjoyment, interest, certainty of employment, aptitude, and knowledge about the job. Many students were still undecided on careers. Sixty-eight percent were committed to education, business, home economics, social science, and medicine in that order.

(184)

Ozarin, Lucy D.
"Experiences in Teaching Community Psychiatry to Residents"
American Journal of Psychiatry
Vol. 120, No. 3
September 1963, pp 271-273

Field: Psychiatry
Application: EDUCATION

"Fifty-one psychiatric residents attended two workshops on community psychiatry and public health-mental health. Their reaction to and evaluation of these workshops is presented. These experiences suggest that residents are presently receiving only limited information about experience in community psychiatry. It should be possible to incorporate training in community psychiatry into existing programs by faculty awareness and use of appropriate approaches and by ongoing seminars, utilizing outside lectures as needed."

(185)

Palmer, Gladys L.
"Book Review of Proceedings of a Conference on the Utilization of Scientific and Professional Manpower"
Columbia University Press, New York
Science
Vol. 120, No. 3114
September 3, 1954, p 379

Field: All Professional Fields
Application: ADMINISTRATION,
UTILIZATION

The Conference gave the following suggestions for increasing the productivity of workers:

1. modify equipment,
2. develop new work patterns such as the team approach,
3. construct more schools and hospitals,
4. improve leadership and administration,
5. continually reappraise the appropriateness of training programs.

(186)

Parke, James
"Enlisting Retired Elderly Persons for Volunteer Service"
Hospitals, Journal of the American Hospital Association
Vol. 38, March 16, 1964, pp 67-68

Field: All Professional Fields
Application: UTILIZATION,
VOLUNTEERS

Elderly persons are often eager to volunteer their services because they may consider their lives less rewarding after retirement than during their work years. If they are considered in the same manner as other volunteers they will be productive and useful.

(187)

Parker, Clyde A.; Wright, E. Wayne
"Do Scholarships Influence College Attendance?"
Journal of Higher Education
Vol. 27, No. 3
March 1956, pp 147-150

Field: All Professional Fields
Application: FINANCING

The authors studied scholarship holders at Brigham Young University and discovered that for a few of the students the scholarship entered into the decision of whether or not to go to a university and for a larger number of them into the decision of whether or not to attend Brigham Young.

(188)

Patti, Joseph B.
"Elementary Psychology for Eighth Graders"
American Psychologist
Vol. 11, No. 4
April 1956, pp 194-196

Field: Psychology
Application: EDUCATION

A course in psychology was taught to eighth graders. The curriculum included nature-nurture, personality types, fears, dreams, frustrations, ESP, and a number of other topics. The students were quite enthusiastic. No followup was made.

(189)

Penk, G. L.
"St. Paul Vitalizes Science and Mathematics for the Gifted"
American School Board Journal
March 1959, pp 19-21

Field: Science
Application: EDUCATION

The St. Paul program for the development of gifted students in mathematics and science interrelates the sciences and accelerates the superior student. It includes:

1. teacher workshops where teachers spend a week learning how to teach gifted students,
2. selection of students by observation, testing, and teacher recommendation,
3. seminar internships with individual student work.

There have been significant reactions on the part of the student to the material, but the article gives no details.

(190)

Pierce, W. M.
"On a Certain Blindness in Physicists"
American Journal of Physics
Vol. 24, No. 6
September 1956, pp 425 - 428

Field: Physics
Application: EDUCATION

Shortages of people interested in science begin at the elementary level and continue at the secondary level due to inadequate teacher preparation and inadequate organization of curriculum materials. Solutions to the problem of shortages are being sought by physicists in the same tradition which has prevailed for the last fifty years--ignoring completely the changed high school conditions with which they must deal. Three suggestions as to the lines of possible solution other than the traditional are indicated. The three are:

1. train science teachers to teach science (all kinds),
2. rethink both college and high school curricula,
3. increase cooperation with high school physic teachers.

(191)

Pinkerton, Philip
"Teaching by Tape"
Lancet
Vol. 2, No. 7197
August 5, 1961, pp 308-309

Field: Teaching
Application: UTILIZATION

The use of tape has the following advantages:

1. there is no live observer during the interview session,
2. the tape can be played to many students,
3. it can be stopped in anticipation of important sections,
4. it can be sent to an area where similar facilities may be lacking,
5. it allows the participation of the audience,
6. it is condensable while still retaining the essentials, and therefore is a timesaver,
7. it can be used at convenient times by students and teachers.

(192)

Pollard, John A.
Fund-Raising for Higher Education
Harper and Bros., New York, 1958
255 pages

Field: All Professional Fields
Application: FINANCING

Public Relations is the start of fund raising. A case and constituency must be built up, money must be requested, and support should come from many people. Sources for college funds are alumni, church bodies, business groups. Fund raisers can start by asking foundations in the area. They should state what the funds are for and what programs would be impossible without them. Recruitment along the lines of volunteers enlisting volunteers is effective, although contact must be maintained with the paid workers.

Campaigns should include: hard facts, volunteers working toward stated goals, personal solicitation, sound organization, good leaders and co-workers, and direct friendly conversation appeals. This book covers detailed methods of fund-raising.

(193)

Poste, Anton
"Science Teaching in the Secondary Schools"
Science
Vol. 117, No. 3047
May 22, 1953, p 567

Field: Science
Application: CAREER CHOICE,
EDUCATION

The results of following the suggestions listed below would lead to a laity better informed on scientifc questions and would help to fill the depleted ranks of scientific personnel.

1. Students should receive better guidance in their course selection.
2. Parents should be informed and help their children in career choice.
3. Educators should not under-estimate the abilities of their students.

(194)

Potter, A. A.
"National Science Foundation Developments"
Engineering Education
Vol. 59, 1952, p 81

Field: All Professional Fields
Application: EDUCATION, FINANCING,
RECRUITMENT

The National Science Act of 1950 established a foundation to develop and encourage national policy for:

1. promoting basic research and education in the sciences including the medical and biological science,
2. awarding of scholarships,
3. fostering the interchange of information,
4. maintaining a register of scientific and technical personnel,
5. initiating research projects.

The NSF has four divisions: medical research, biological science, and the division of scientific personnel and education, which awards graduate scholarships in mathematics, medicine and biology, are three of the four.

(195)

Potter, Howard W.; Klein, Henriette R;
Goodenough, Donald R.
"Problems Related to the Personal Costs of Psychiatric and Psychoanalytic Training"
American Journal of Psychiatry

Vol. 113, No. 11
May, 1957, pp 1013-1039

Field: Psychiatry
Application: FINANCING

Psychiatric training, especially in psychoanalysis, is expensive. Residency salaries are too low to support a family and pay for didactic analysis and training. (Median salary is $3,000 per year while living expenses are $4,000 per year.) To combat this, the resident may set up practice which takes time away from his residency program. The burden of financial worries may cause the resident to give up psychoanalysis and take on a part-time job. Various remedial policies for consideration are:

1. long-range planning of training in clinical psychiatry and psychoanalysis with budgeting of time, energy and interest,
2. student loans and career grants,
3. control of fees for personal analysis of trainees and the use of tuition for supervisory costs,
4. integrated training in psychiatry and psychoanalytic medicine,
5. use of supervised private practice as part of a residency training program,
6. assumption of the major financial cost of training by the medical college or hospital through use of part-time and full-time staff psychoanalysts.

(196)

Pratt, O. G.; Monagle, W. J.
"Medical and Paramedical Education in Hospitals"
Hospitals, Journal of the American Hospital Association
Vol. 37, April 16, 1963, pp 123-128

Field: Medicine
Application: EDUCATION, RECRUITMENT, UTILIZATION

A number of suggestions to improve the quality of medical education programs are:

1. medical schools and universities should assume the responsibility for graduate education,
2. it is the responsibility of the medical school teaching hospital to establish affiliated intern and residency programs in community hospitals,
3. the ability to recruit graduates should be made a qualification for internship approval,
4. increased educational quality should accompany added outlay.

Without cutting into a physician's free time in one city, a private medical radio station transmits medical news, information, educational news, and literary digests to doctors' offices. The growing use of electronic and automatic equipment is a partial answer to the shortage of personnel.

The article briefly lists related occupations--hearing and speech therapists, medical record librarians, medical technologists and technicians, x-ray technicians, personnel and public relation specialists, pharmacists, physical therapists, occupational therapists, inhalation therapists, biomathematicians, EEG technicians, and purchasing agents.

(197)

President's Committee on Government Contracts,
Development of Training Incentives for the Youth of Minority Groups
U. S. Government Printing Office, Washington 25, D. C., April 1957
10 pages

Field: All Professional Fields
Application: EDUCATION, MANPOWER RESOURCES, RECRUITMENT, UTILIZATION

The Youth Training-Incentives Conference mentions the essential elements of programs designed to stimulate more minority group youth to train for skilled employment. These elements include.

1. action by businessmen and local labor leaders to provide all youth with more opportunities for on-the-job training.
2. dissemination of information about expanded job opportunities,
3. programs in the schools to convince the youth to train for the opportunities.

There have not been enough job opportunities for Negroes, nor have there been enough well-qualified Negroes. Leaders of business and industry have the primary responsibility for disseminating information about job opportunities for minority groups. Counselors need assistance in defining their roles with minority youth.

(198)

President's Science Advisory Committee
Meeting Manpower Needs in Science and Technology
Report Number One: Graduate Training in Engineering, Mathematics, and Physical Sciences,
A Report of the PSAC, The White House, Washington, D. C.
December 12, 1962, 45 pages

Field: Engineering, Mathematics
Physical Sciences
Application: EDUCATION, FINANCING

The President's Science Advisory Committee recommends an improved quality of manpower through high levels of attainment in graduate school as a partial answer to the shortage of engineers. Recommendations are that:

1. the fraction of high-ranking graduates who take advanced study be increased,
2. college courses be improved through better instruction,
3. availability of courses be increased,
4. the number and size of graduate stipends, fellowship, and training be increased to assure students of financial stability during this period,
5. all types of awards be restructured,
6. all types of federal support be coordinated.

More technicians and funds to train students are needed. The report includes projections of future demand and supply. The PSAC believes that planning and initiating new institutions should be done by local business, educational, and political leaders.

(199)

Public Health Service
Department of Health, Education and Welfare
Professional Nurse Traineeships
Parts I & II

Field: Nursing
Application: EDUCATION, FINANCING

Since the Professional Nurse Traineeship Program was authorized in 1956, Congress has authorized $5 million for National Institute of Mental Health grants to about 1,800 nurses. The conference felt that the program was a success and should be continued with more study. This pointed to the fact that many trainees got better jobs when they completed the program and that the trend toward fewer enrollees in professional programs in nursing had been halted since the program started. Other less tangible successes were discussed and some of the administrative problems reviewed.

(200)

Punke, Harold H.
"Maximum Development and Utilization of Individual Capacities"
School and Society
Vol. 76, No. 1960, July 12, 1952
pp 21-23

Field: All Professional Fields
Application: UTILIZATION

"It appears that any educational or personnel policy regarding school youth or workers. . . . . . which purports. . . to utilize persons to the maximum. . . is . . . unrealistic and unworkable. Among the factors which make such a policy unworkable are the personal and non-vocational interests and goals (of employees)--the synchronized character of many learning situations and many areas of employment means that the amount of ability and energy which a particular individual can devote to his task depends on the amount which will result in the greatest harmony with co-workers. Moreover the stake which the organized state has in fostering non-school and non-vocational interests and activities on the part of the individual is important."

The author proposes that programs for the maximum utilization of students or employees should be realistically geared to what the student is willing to do rather than to what the student or employee could do.

(201)

Rabinowitch, Eugene
"Editorial: Scientific Womanpower"
Bulletin of Atomic Scientists
Vol. 7 No. 2, February 1951, p 34

Field: Manpower Resources, Medicine, Science
Application: RECRUITMENT

The author proposes that women can be the answer to scientific, technical, and medical manpower shortages. There must, however, be a change in public attitudes for this to occur.

(202)

Randolph, Mrs. Andrew K.
"Auxiliaries and Volunteer Services"
Hospitals, Journal of the American Hospital Association
Vol. 36, April 16, 1962, pp 52-56

Field: Nursing, Social Work
Application: EDUCATION, RECRUITMENT, VOLUNTEERS

"Fund-raising activities have a major community relations value when every contact made, in person or through publicity, becomes a means of telling the public . . ." about a hospital's needs and its programs. Suggestions for recruitment are:

1. provide nursing scholarships,
2. work on career day programs,
3. offer practical opportunities. (A student was given the chance to conduct a summer recreational program for child and adult patients as a result of a social work program at a career day. The student was encouraged to take further medical social work training).
4. offer a course in occupational therapy for volunteers. ("Pilot projects in the field of psychiatric volunteer service, though proving successful, are issuing warning lights. This service is the only instance in which a volunteer is dealing directly with a disease process. This distinction makes it necessary that every phase of selection and training be intensified, with special further emphasis on supervision.")

(203)

Reiner, William
"Survey of Research in Secondary School Science Education"
School Science and Mathematics
Vol. 57, No. 8, November 1957
pp 604-612

Field: Teaching
Application: RESEARCH, UTILIZATION

The author brings out the following points:

1. Poor salaries are a partial reason for the teacher shortage.
2. General education courses in science fail to adequately prepare the student for further science work.
3. There is a need for talent searches and scholarships.
4. Summertime training for teacher and pupil could improve science education.

"Many of the recommendations (in industrial reports) are for the most part wishful thinking, e.g. ask retired science workers to take up teaching, have college-trained mothers of grown children return to college two afternoons a week for courses to qualify them for science teaching, make science teaching attractive by offering as incentives to trainees the prospect of summer work and after-school work" . . . to bolster their income. These methods will not train such teachers adequately. The author feels that research will be necessary to find answers.

(204)

Reinherz, Helen
"College Student Volunteers as Case Aides in a State Hospital for Children"
American Journal of Orthopsychiatry
Vol. 33, pp 544-546

Field: Mental Health
Application: EDUCATION, VOLUNTEERS

The author tells of a project in which college-student-volunteers work in direct contact with disturbed children. As a result the children have a corrective emotional experience with an adult which helps them establish inner controls. The work is often activity oriented, rather than verbally oriented, hence the child feels the leeway and is unrestricted. In the second year all seven patients studied had progressed. This positive growth was determined through testing. The program is a help in relieving the work load of psychiatrists.

(205)

Renshaw, Edward F.
"Financing Higher Education in The Decade Ahead"
School and Society
November 19, 1961, pp 396-398

Field: All Professional Fields
Application: EDUCATION, FINANCING

"Suppose that in exchange for a loan of $100 per year for ten years the university was to agree:

1. to underwrite the cost of enough term insurance so that the death of one or more parents would not jeopardize the loan series,
2. to provide the student beneficiary, upon evidence of satisfactory progress at an accredited institution of higher learning (not necessarily the university receiving the loan series) with a comparable interest-free loan. By sacrificing, at most, $150 in accrued interest before taxes, the parent would be able to insure his offspring of at least $1,000 . . . "

> to help pay college expenses
> and also provide him with the
> valuable privilege of borrowing,
> at no cost, an additional
> $1,000 to complete his studies."

The loans would provide the university with a comparatively costless source of funds. The author lists further advantages of such a program.

(206)

Ricking, M.
"Continuing Battle"
American Librarian Association Bulletin
Vol. 57, April 1963, pp 293-295

Field: Librarianship
Application: REORGANIZATION

Rather than lower the standards of training, Miss Ricking emphasizes the necessity for organizing and rescheduling the responsibilities and improving the working conditions of librarians.

(207)

Rickover, H. G.
"The Situation in American Engineering and a Scientific Education"
School and Society
Vol. 83, No. 2086, May 26, 1956
pp 175-179

Field: Science
Application: EDUCATION, FINANCING

Sixty percent of the best high school graduates do not go to college. For every high school graduate who eventually earns a degree, there are 25 others who have the intellectual ability to achieve the degree but do not do so. We must increase funds for education, increase teachers' salaries, enlist scholarship and fund support from industry, and foster the proposal that scientists be given periodic leaves to teach. By increasing the length of the school year we could add two years to pre-college education.

(208)

Riley, Susan B.
"Finding and Launching the Superior Student"
Superior Student
Vol. 1, No. 7, January 1959
pp 9-11

Field: All Professional Fields
Application: COUNSELING, FINANCING, RECRUITMENT

Colleges can prevent losses of talented high school students and secure higher quality entering freshman by improving recruitment practices. Such practices could include:

1. careful screening,
2. inviting high school groups to campus during the summer for workshops and orientation periods with guidance counselors,
3. offering scholarships to gifted applicants,
4. using equal zeal in finding the intellectually gifted as in finding the athletically gifted.

Association with other gifted students may make guidance, sections, and seminars more effective. Teachers should assume a large part of the counseling. Challenging teachers should teach the honors courses.

(209)

Riley, Susan B.
"New Sources of College Teachers"
Journal of the American Association of University Women
Vol. 54, No. 3, March 1961
pp 131-134

Field: Teaching
Application: MANPOWER RESOURCES

There is an ever-increasing shortage of college teachers. This problem can be solved only on a multi-lateral basis. One solution is increased usage of women. The reasons they are not used more often are the prejudices against them and the difficulty of finding ones who are qualified.

In any case, it is the women themselves who will determine whether or not they will be used more extensively in college teaching.

(210)

Rioch, Margaret J.; Elkes, Charmian; Flint, Arden A.; Udansky, Blanche Sweet; Newman, Ruth G.; Silber, Earle
"National Institute of Mental Health Pilot Study in Training Mental Health Counselors"
American Journal of Orthopsychiatry
Vol. 33, pp 678-689

Field: Mental Health
Application: ANCILLARY PERSONNEL

"The paper describes the first year's experience in testing the hypothesis that carefully selected mature people can be trained within two years to do psychotherapy under limited conditions. Eight 40-year old married women with children were trained in a very practical program." A corps of these workers might be trained to free the psychiatrists's time. To utilize this goldmine of psychological talent would be to provide a considerable amount of low-cost therapy. Recruitment for the program was carried on through six weeks of telephone calls and short public speeches. All those selected were college graduates, some with advanced degrees. The training focused sharply on psychotherapy. Other points noted are:

1. Retired persons might be useful.
2. In the use of older women with children, some may be reluctant to join and therefore may need special classes.
3. The women need not work above the level of their competence.
4. Under this plan more patients can be seen and the trained psychotherapists will be doing something constructive.

(211)

Rivlin, Alice M.
The Role of Federal Government in Financing Higher Education
Brookings Institution, Washington D. C. November 1961, 179 pages

Field: All Professional Fields
Application: EDUCATION, FINANCING

The author presents a discussion of:
1. what the government has done in the past to aid education,
2. the pros and cons of government aid,
3. alternatives to existing programs.

To some extent federal aid to education programs have grown out of each other. The GI Bill sent thousands of students to college, but they needed housing. The National Science Foundation Fellowships in science were concentrated at a few institutions, and the cooperative fellowship program was initiated to distribute scholars.

Between 1/3 and 1/2 of those who rank in the top third of the high school graduating class do not go to college. Many drop-outs say they would have gone to college with financial assistance, but they have not looked into scholarships and loans. Students are more likely to go to college if their parents are well-educated and if the college is close than if these

conditions do not prevail. Fellowships are advantageous, but they may encourage students to enter fields which they latter find unattractive.
Possibilities to better utilize teachers' time are:

1. reduce the number of offered courses, especially if they overlap with others,
2. combine very large lectures with small discussion groups,
3. use TV and teaching machines.

Further, the author extensively relates the various federal education assistance programs and their expenditures.

(212)

Robb-Smith, A. H. T.
"The Fate of Oxford Medical Women"
Lancet
Vol. 2, No. 7266, December 1, 1962
pp 1158-1161

Field: Medicine
Application: MANPOWER RESOURCES

In a survey of 139 women medical graduates from Oxford about half of the grads who were not working said they wanted to but needed domestic help and child-care. "Many of the difficulties would be overcome if the Ministry of Health altered its policy to be built to meet the needs of working mothers." Many already practicing part-time said they wanted more work.

(213)

Robinson, J. W.
"Financing of Medical Schools"
Science
Vol. 120, No. 3128, December 10
1954, p 1500

Field: Medicine
Application: FINANCING

In this letter discussing Dr. Bird's article (reviewed in Science, August 1954, p 5a) the author states that to make going into debt a mass project would be detrimental to medical students. "Many who could do valuable research work would have to secure any practice they could in order to get out of debt." The government should aid in the support of medical shools.

(214)

Roemer, Milton I.
"Hospital Utilization and the Supply of Physicians"
Journal of the American Medical Association
Vol. 178, December 9, 1961, pp 989-993

Field: Medicine
Application: EDUCATION, FINANCING, UTILIZATION

"Among the many factors affecting the hospital utilization rate in a region, little attention has been given to the supply of physicians. Characteristics of patients have been studied as well as policies of hospitals and practices of physicians. This paper explores the relationship of the physician-population ratio to the hospital admission rate in the 48 continental states of the United States. After making statistical corrections for insurance coverage and the available supply of hospital beds, it was found that below a threshold supply of 110 physicians per 100,000, the rate of hospital admissions tends to go up as the supply of physicians goes down. Possible explanations for this are explored. Rising hospital admission rates, therefore, may be partially due to the existing lag in the output of physicians." The implications of this for medical education are discussed. Government subsidy to medical education is suggested.

(215)

Ross, Sherman; Denenberg, Victor H;
Chambers, Randall M.
"Development of High Level Science Talent"
The Science Teacher
October, 1956, pp 279-281, 301-303

Field: Science
Application: RECRUITMENT

Some approaches suggested for the identification, encouragement, and development of high level talent are:

1. making the training of science teachers an explicit function of science departments at universities and colleges,
2. conducting "science camps" (in which the students are exposed to raw materials) during the summer,
3. instituting high school research apprenticeships during the summer.

The authors then describe a study which was designed to find the reasons for student interest in science.

(216)

Ruffing, Ann
"Proper Use of Teacher Time"
School and Society
Vol. 87, No. 2147, February 14
1959, pp 75-76

Field: Teaching
Application: UTILIZATION

To best utilize the teacher's time:

1. class interruptions should be kept to a minimum,
2. class size should be determined in relation to the age and ability of the student,
3. teachers' schedules should allow adequate time for classroom preparation, research, and parent conferences,
4. records should be simplified and standardized, machines used when possible,
5. supplies should be easily accessible, up to date, centrally located, and centrally purchased,
6. conferences should take place prior to changing teaching assignments,
7. good staff morale should be maintained through cooperation between the administration and faculty in planning curricula.

(217)

Schriever, William
"Teacher Training"
Science
Vol. 115, No. 2978, January 25, 1952
pp 96-98

Field: Teaching
Application: EDUCATION

University scientists can support science teaching in high school and college by:

1. increasing their knowledge of science,
2. making practical applications of their research,
3. transmitting science to the next generation through the training of future science teachers by devoting time to studying the teacher training problem.

It is also suggested that education in the sciences be extended through the lower grades.

(218)

Schultz, Beth
"Survey of Recent Research in College Science Teaching"
School Science and Mathematics
Vol. 58, No. 8, November 1958
pp 624-629

Field: Teaching
Application: UTILIZATION

In an effort to increase the number of college teachers some colleges have hired industrial scientists on a part-time basis. Students rated these instructors as being as good as regular college professors. It was found that a source of waste was the number of courses offered due to highly departmentalized colleges. Mechanical aids, TV, films, slides, recorded lectures, and films by outstanding lecturers could partially relieve pressures on faculty members.

(219)

Schultz, Raymond E.
"Scholarships for Junior College Transfer Students"
School and Society
Vol. 29, No. 2187, February 25 1961, pp 86-87

Field: All Professional Fields
Application: FINANCING, MOTIVATION, RECRUITMENT

Scholarships of $500 a year for junior college transfer students at Florida State University:

1. make possible continued education for junior college graduates,
2. serve as an effective means of recruiting capable junior college graduates,
3. motivate the student because of the prospect of being able to continue his education,
4. promote scholarship support from other sources.

(220)

Schultz, Theodore W.
The Economic Value of Education
Columbia University Press, New York and London, 1963, 92 pages

Field: All Professional Fields
Application: EDUCATION

Education discovers and cultivates potential talent and helps a person to adjust to changing job opportunities. Foregone earnings play an important part in the education of students whose family income is low. Often they do not take advantage of scholarships because they need to supplement family income. Tables in schooling costs and foregone earnings are included. The author cites other countries to show that elementary schooling is important. In this country although schooling is compulsory, individuals in many minority groups receive less than eight years of education.

The earning capacity of the white urban male will be approximately 11 percent greater if he receives a college education than if he does not, even after foregone earnings during the educational period are taken into account. The man with a high school education will earn 10 percent more than the man with only an elementary education; and the earnings of the man with an elementary school education will be 35 percent greater than if he had received no education at all.

(221)

Shuval, Judith T.
"Social Factors Conditioning Recruitment of Nurses in Israel"
Journal of Health and Human Behavior
Vol. 2, 1962, pp 82-88

Field: Nursing
Application: CAREER CHOICE, MOTIVATION

A study of the background, motivations and interests underlying the choice of a career in nursing was conducted through interviews and questionnaires with a number of post-high school girls in Israel. An affective-nurturant component in the personality structure and seeking after social status are two important variables.

(222)

Sigman, Elaine
"Library Aide Volunteers"
Adult Leadership
Vol. 12, No. 10, April 1964
pp 295-296

Field: Librarianship
Application: EDUCATION, VOLUNTEERS

To secure volunteer aides for libraries the following program was used: First, a theme was selected, "To assist the library in its efforts to serve adults." Second, a community conference was publicized by:

1. announcements in the newspaper,
2. notices to community agencies, organizations, and businesses,
3. flyers to each adult visiting this and nearby libraries,
4. announcements on school and church bulletin boards,
5. posters in store windows,
6. speaking arrangements with PTA, womens and mens clubs, veterans organizations, etc.

Third, facts were presented at a conference through the use of exhibits, slides, films, short talks, and/or dramatic presentations. Those present were asked for suggestions for improving library service. The purpose of the aide program was explained. An inservice training program for aides was given with progressively advanced tasks.

(223)

Simmons, Leo
"The Manipulation of Human Resources in Nursing Care"
American Journal of Nursing
Vol. 51, July 1951, pp 452-455

Field: Nursing
Application: EDUCATION, UTILIZATION

Psychiatric consultations for nurses to report early signs of emotional distress led to special psychiatric training. The nurses rotate in leading the discussions. Since the nurse is with the patient more often than the doctor is, it is important that she learn how best to handle his emotional needs. If the potential personality of the nurse is not fully utilized she may become hardened due to frustration and compromise in ward practice.

(224)

Sleeper, Francis H.
"Present Trends in Psychiatric Nursing"
American Journal of Psychiatry
Vol. 109, No. 3, September 1952
pp 203-207

Field: Nursing
Application: EDUCATION, UTILIZATION

The author suggests that nurses be utilized in optimum positions, that their salaries be raised to attract more into the field, that they be made to feel valuable, that their skill be used in teaching, in supervising, and in preventive nursing positions. "The better understanding by the nurse of psychotherapy and the different theories and techniques of psychotherapy, and the more opportunities she is given to use this knowledge and skill with the advice and help of the institutional psychiatrist, the more reason we have to hope for increased success in the hospital practice of psychiatry."

(225)

Small, J. J.
"Developing Superior Talent"
School and Society
Vol. 86, No. 2132, May 10, 1958
pp 219-222

Field: All Professional Fields
Application: EDUCATION

To develop superior talent we need:
1. closer, more effective teacher-student relations,
2. cultivation of student participation,
3. earlier introduction into science courses,
4. more and better career counseling,
5. wider acceptance of accelerated programs,
6. early recognition and encouragement of talent (in elementary school).

(226)

Smiley, Lillian M.
"A Workshop for Prospective Volunteers"
American Journal of Nursing
Vol. 51, No. 3, March 1951
pp 171-172

Field: Nursing
Application: VOLUNTEERS

A volunteer training program was started when the need for service was made known to the community via radio and the press. Four prospective divisions were set up:
1. graduate nurses and American Red Cross aides,
2. volunteers studying to be ARC aides,
3. volunteer aides,
4. sewers and suppliers.

Training included workshop demonstrations. The program resulted in 34 volunteer service hours per week. More volunteers are in training.

(227)

Smith, M. Elizabeth Reichert
"Preparing the Student for the Psychiatric Affiliation"
American Journal of Nursing
Vol. 51, No. 1, January 1951
pp 47-49

Field: Nursing
Application: EDUCATION

The following elements are helpful in preparing the nurse of psychiatric affiliation:
1. ward clinics and conferences on patients who have shown psychotic behavior,
2. visits to mental health centers,
3. student discussion groups
4. one to one discussion with counselor,
5. field trips to psychiatric institutions in advance of working at a mental institute,
6. careful selection of books. (Librarians can be asked to set up an attractive display).

(228)

Smith, John E.
"Recruitment and Public Relations"
Library Journal Articles on Recruitment for Librarianship
1962, pp 9-11

Field: Librarianship
Application: RECRUITMENT

The author considers the recruitment problem from a public relations point of view and mentions some of the "image" problems of the library profession. He proposes a large scale public relations program to alter the librarian's public image.

(229)

Smuts, Robert W.
"The Negro Community and the Development of Negro Potential"
Journal of Negro Education
Vol. 26, No. 4, Fall 1957, pp 456-465

Field: All Professional Fields
Application: COUNSELING, EDUCATION, MOTIVATION

More Negroes are now obtaining jobs which can lead to promotion to supervisory positions. Long range motivations of higher income, better housing, integrated schools, and assurance of job opportunities will further higher education among Negroes. The shortcomings of his present education limits his opportunities. Scholarships, identification of talented Negro students, and funds for support of Negro colleges can raise the educational standard. "Vocational guidance must abandon the effort to spot those specific occupations where it is believed that Negroes can be reasonably sure of a job."

(230)

Snyder, C. D.
"Auxiliaries and Volunteer Services"
Hospitals, Journal of the American Hospital Association
Vol. 37, April 16, 1963, pp 55-57

Field: Health
Application: VOLUNTEERS

Resources for volunteer recruitment are retired men and teen-agers. Retired musicians, men manning the library cart, and flower delivery relieve nurses of these jobs and also entertain patients. Teen-agers can serve as therapeutic aides in mental hospitals. It is important to stress training while at the same time being careful to leave the volunteers enough spontaneity to respond to patients in simple human terms. Teen-agers have also been used in the emergency department in a Texas hospital, in nursing homes, and other hospital auxiliaries.

(231)

Social Workers for California
Report of the Advisory Committee on Social Welfare Education to the Liaison Committee of the Regents of the University of California and the State Board of Education
September, 1960

Field: Social Work
Application: FINANCIAL AID, RECRUITMENT, UTILIZATION

This report contains the suggestions of the Advisory Committee on Social Welfare Education as to the best means of increasing the number and improving the education, between 1960 and 1965, of the social workers needed by California's public and voluntary social welfare agencies and programs. The Committee recommends that educational facilities at all levels be expanded; that "Experimentation, demonstration, and research on manpower utilization and related educational programs be given immediate support and encouragement"; that a state program of scholarships and fellowships should be supported; that recruitment programs be encouraged; and that "the necessity for full cooperation and coordination be clearly recognized." Specific suggestions are given for the implementation of each of these recommendations.

A full section of this report is devoted to the development of the idea of "Manpower Utilization: the Differential Use of Personnel." It is thought that the field of social work may be ready for a division of labor such as those employed in medicine, dentistry, teaching, etc. Some advantages of the differential use of personnel are:

1. more efficient use of personnel in relation to their preparation and qualifications,
2. the quality and reliability of job performance would be enhanced by clear identification of functions, education for those functions, and accompanying provision for career opportunities,
3. the effectiveness of social welfare programs would be improved by the better utilization of manpower,
4. educational institutions would have clearer guidelines on the basis of which to plan and develop their programs.

(232)

Stanford Research Institute
Human Resources and Economic Growth
(Ed. M. C. Alexander-Frutchi)
Stanford Research Institute, Menlo Park, California, 1962, 398 pages

Field: All Professional Fields
Application: EDUCATION, UTILIZATION

Although this excellent annotated bibliography is focussed primarily on labor supply in underdeveloped countries it also contains abstracts of books and articles on topics related to professional manpower, such as books on manpower planning and theoretical models of labor supply and its determinants.

Some of the topics covered are economics of human resources, rational utilization of human resources, the strategies of educational planning, and education.

(233)

Stanley, Wendell M.
"The Gold in Useless Knowledge"
Science
Vol. 123, No. 3192, March 2, 1956
p 353

Field: Medicine
Application: FINANCING

The author suggests that we set a contract at a certain percent of the federal income to support medical research. He proposes not to give it all at once but to build up to the desired amount. He contrasts the defense budget with the medical budget and shows the large difference between the two.

(234)

Steffensen, James P.
Merit Salary Programs in Six Selected School Districts
(Bulletin) 1963
U. S. Department of Health, Education and Welfare, Office of Education
United States Government Printing Office Washington, D. C., No. 22, 1962, 63 pages

Field: Teaching
Application: RECRUITMENT

The merit salary program awards higher salaries to the most effective teachers. This program should be particularly attractive to superior teachers if:

1. the merit principle applies to the recruitment period,
2. the amount of salary differential for superior service is significant,
3. the time interval between the minimum and maximum salaries can be significantly reduced.

The salary schedule ranges from $4,500 to a possible $9,000 per year.

Further salary schedules and evaluation methods and criteria are discussed.

(235)

Stone, C. Harold; Kendall, William E.
Effective Personnel Selection Procedures
Prentice-Hall, Inc. Englewood Cliffs, N. J., 1956, pp 19-31

Field: All Professional Fields
Application: RECRUITMENT

This book deals with recruitment, selection process, personnel testing, and introduction of the worker to his job.

In the section concerned with recruitment the authors state that a company can create a favorable impression on the applicant by common courtesies such as prompt mail answers, warm environment,etc.

The company could utilize leaflets announcing available positions, the services of radio and newspapers, and recommendations by employees themselves as propaganda to recruit workers.

(236)

Straus, William L., Jr.
"The Financing of Medical Schools"
Science
Vol. 120, No. 3112, August 1954
p 5A

Field: Medicine
Application: FINANCING

This review of Dr. Brian Bird's article (Journal of Medical Education, June 1954, Vol. 29, No. 6, page 35) reports that Dr. Bird suggests that the medical profession pay its own way. Students can borrow funds from school and repay them after graduation. Schools would then have funds to pay proper salaries.

(237)

Strickler, Robert W.
"Academic Scholarship, A Challenge to Your Schools"
American School Board Journal
August 1958, pp 15-16

Field: All Professional Fields
Application: EDUCATION, FINANCING

The challenge facing American education is "to prevent the waste of human talent by providing every able individual with the opportunity and the means for the fullest development of his abilities." The situation is improving in that:

1. the number of scholarships is increasing,
2. scholarships with a broad national interest are becoming more prevalent,
3. the amount of financial assistance granted through scholarships is becoming more realistic,
4. an increasing degree of selectivity with regard to intellectual aptitude and achievement of recipients is noted.

(238)

Strout, Donald F.
"Personnel Shortages: The Library Profession's Number One Problem"
Library Journals Articles on Recruitment for Librarianship
1962

Field: Librarianship
Application: ANCILLARY PERSONNEL, RECRUITMENT, UTILIZATION

The author discusses the desperate shortage of librarians and says that it is likely to get worse rather than better. Despite the fact that librarian salaries have risen, there has not been a concomitant rise in entrants to the field. The schools as well as the profession have too few people. He proposes several ideas:

1. do more person-to-person recruiting.
2. give some of the duties to clerical workers whose salaries would be raised,
3. improve professional morale,
4. have a pre-professional program,
5. use housewives,
6. raid other fields,
7. change public image.

(239)

Sugg, Redding S., Jr.
"Southern Regional Mental Health Program Focuses on Development of Training and Research"
American Psychologist
Vol. 10, No. 9, September 1955
pp 532-535

Field: Mental Health
Application: EDUCATION, FINANCING

The Southern Regional Program of mental health and training recommends that States:

1. should increase their appropriations to universities and agencies,
2. which need people and lack facilities might make arrangements with other institutions to supply the training,
3. should jointly encourage the growth of mental health centers.

(240)

Sund, Robert B.
"Implications of Technical Manpower Shortages for Science Teachers"
School Science and Math
Vol. 61, No. 1, January 1961
pp 31-33

Field: Teaching
Application: RECRUITMENT

There are manpower shortages in the teaching of science throughout Western Europe. Some methods of recruiting science teachers are: reveal world-wide opportunities for employment, point out the various professions possible, emphasize "science as a frontier", and make courses interesting.

(241)

Super, Donald E.
"A Theory of Vocational Development"
American Psychologist
Vol. 8, 1953, pp 185-190

Field: All Professional Fields
Application: CAREER CHOICE, VOCATIONAL DEVELOPMENT

The theory of vocational development can be stated in ten propositions:

1. People differ in their abilities, interests and personalities.
2. Everyone is qualified, because of his characteristics, for a number of occupations.
3. Each occupation requires a pattern of abilities.
4. Vocational preferences and self-concepts change with time, making choice a continuous process.
5. "This process may be summed up in a series of life stages characterized as those of growth, exploration, establishment, maintenance, and decline, and these stages may in turn be subdivided into (a) the fantasy, tentative and realistic phases of the exploratory stage, and (b) the trial and stable phases of the establishment phase."
6. "The nature of the career plan . . is determined by the individual's parental socio-economic level, mental ability, and personality characteristics and by the opportunities to which he is exposed."

7. Development through the life stages can partly be guided by aiding in the maturation of abilities, in reality testing, and in the development of the self-concept.
8. Vocational development is mainly developing and maintaining a self-concept.
9. Compromise between individual and social factors, between self-concept and reality, is one of role playing.
10. Work and life satisfaction depend upon the individual finding adequate outlets for his abilities, personality traits, interests, and values.

(242)

Tanner, Daniel
"Independent Study Programs and the Effective Use of College Faculty Resources"
College and University
Vol. 34, No. 3, Spring 1959
pp 291-294

Field: All Professional Fields
Application: EDUCATION

Methods to accomodate additional college enrollment could include:
1. self-study programs,
2. TV and other visual aids,
3. reduction in the duplication of offerings in the curricula,
4. larger lecture classes,
5. non-professional aides for non-teaching work.

(243)

Tanzer, Charles
"Utilizing Our Total Educational Potential: Science for the Slow Learner"
School Science and Math
Vol. 60, No. 3, March 1960
pp 181-186

Field: Science
Application: EDUCATION

This article contains a description of the importance of teaching slow learners about science. Usefulness is emphasized in such courses.

(244)

Teachers College, Bureau of Publications,
Financing the Future of Higher Education
Columbia University, New York
1946, 310 pages

Field: All Professional Fields
Application: EDUCATION, FINANCING

This work provides an analysis of theory and practice of financing of higher education, and attempts to assist in the formulation of fiscal policies suitable to the welfare of American democracy. Although the financial policies of higher education have been laissez-faire, federal aid may now be required because of the establishment of national standards; because the composition of students engaged in higher education is shifting so that there are more students in public schools, and so that costs bar some students from entering school at all. The conclusion reached is that philanthropy won't do the job, and that only by taking over the financing of the total cost of higher education will the government make it possible for social and individual objectives to coincide. A need is cited for unified plans for both state and federal government, whereby two-thirds of the cost of education would be publicly financed and one-third student financed. It is felt that, purely from the point of view of economics, the standard of living of the community would rise.

(245)

Telford, B.
"Getting Work Study to Work"
Time and Motion Study
Vol. 13, No. 1, January 1964
pp 34-38

Field: All Professional Fields
Application: UTILIZATION

The first step in such a study requires a report of activities. These can be charted by a string diagram on which the path of the personnel is traced from point to point. Charting procedures include activity charts, operation process charts, and flow process charts. The data must then be meticulously analyzed and an approved method suggested. Installation and maintenance of this method completes the study.

(246)

Terman, Lewis M.
"The Discovery and Encouragement of Exceptional Talent"
American Psychologist
Vol. 9, No. 5, June 1954, pp 221-230

Field: Science
Application: EDUCATION, RECRUITMENT

Factors affecting success in gifted students are: family background, emotional stability, their drive to achieve, and their mental social adjustment. The capacity to achieve far beyond the average can be detected early in life by a well-constructed ability test. The gifted should be put in an accelerated program. "As our need for more and better scientists is real and urgent, one can rejoice at what the talent search and the science clubs are accomplishing."

(247)

Terris, Milton; Monk, Mary
"Changes in Physician's Careers: Relation of Time After Graduation to Specialization"
Journal of American Medical Association
Vol. 160, 1956, pp 653-655

Field: Medicine
Application: EDUCATION

A study of the 1915, 1920, 1925, 1930, and 1935 graduating classes of the University of Buffalo School of Medicine shows that individual physicians are apt to change from general practice to full-time specialization during their active professional careers.

The graduates of these five classes were designated as either specialists or non-specialists. In each class the percentage of full-time specialists increased with the lapse of time. Moreover, the trend toward specialization was stronger with each succeeding class, so that 15 years after graduation the 1915 class had only 25 percent classified as specialists while the 1935 class, 15 years after graduation, had 46 percent so classified.

(248)

Thistlewaite, Donald L.
"College Environments and the Development of Talent"
Science
Vol. 130, 1959, pp 71-76

Field: All Professional Fields
Application: EDUCATION

In a survey it was found that there are more Ph.D.'s awarded at:

1. mens colleges than at womens colleges,
2. schools located in areas other than the South,

3. Protestant rather than Catholic schools,
4. schools of mixed rather than unmixed student bodies,
5. schools with larger libraries.

Science Ph.D.'s tend to come from different institutions than do humanities Ph.D.'s. Faculties in schools rating relatively high in the output of science Ph.D.'s are characterized by the students as informal and warm. High academic standards prevail, and the faculty judges its members by high standards. The teachers play an important part in motivating the students toward graduate work; however, the teaching is frequently non-directive.

(249)

Thistlewaite, Donald L.
"College Scholarships Offers and the Enrollment of Talented Students"
Journal of Higher Education
Vol. 29, No. 8, 1958, pp 421-425

Field: All Professional Fields
Application: FINANCING

This study shows that colleges which offer more scholarships get more talented students than do those which have less scholarship money per student.

(250)

Thistlewaite, Donald L.
"Conservation of Intellectual Talent"
Science
Vol. 128, October 10, 1958
pp 822-826

Field: All Professional Fields
Application: EDUCATION, FINANCING

In 1955 one study reported that some 150,000 students in the top 30 percent of ability failed to go to college but would have gone if scholarships were available. More financial aid is needed for the top tenth of the nation's high school graduates. The drop-out rate (those students who failed to enroll in an accredited college after high school graduation) is between 28 and 45 percent. Over half of the near winners of Merit Scholarships who did not go to college mentioned financial reasons; 84 percent said they would accept a scholarship and go to college if it were offered to them. Six hundred drop-outs of the top 16,000 students in the Merit program are without funds, but 500 plan to attend college eventually. A followup indicates that fifteen percent of these students did not ultimately do so. The greatest loss of brainpower is in the 70th-95th percentile, and the students in the 70th are those who will profit most from a college education. After interviewing the drop-outs, it was found that they got encouragement from counselors, less from their parents, and that they have few friends in college.

(251)

Thistlewaite, Donald L.
"Merit Scholarships and the Higher Education of Gifted Students"
Journal of Higher Education
Vol. 30, No. 6, June 1959
pp 295-304

Field: All Professional Fields
Application: EDUCATION, FINANCING, MOTIVATION

The author compares 194 matched pairs of Merit Scholars and Certificate of Merit holders. The following effects were observed: the money increased college attendance (1) at the college of first choice, (2) at colleges with small freshmen classes, (3) at private schools, and (4) at religious schools. It also appears to have motivated students toward advanced training.

(252)

Thistlewaite, Donald L.
"The Recognition of Excellance"
College and University
Vol. 36, 1961, pp 282-295

Field: All Professional Fields
Application: EDUCATION, FINANCING, MOTIVATION

This is a study of the effects of honorary (non-monetary) recognition on graduating high school seniors. Aside from other (social) results it increased motivation of the students, facilitated their acceptance into their first choice college, and gave impetus toward their being granted more monetary scholarships. Thus, recognition has positive effects on the student and, hence, on the quality of upcoming manpower.

(253)

Thistlewaite, Donald L.
"Scholarships and the College-Going Behavior of Talented Students"
College and University
Vol. 34, 1958, pp 65-73

Field: All Professional Fields
Application: CAREER CHOICE, EDUCATION, FINANCING

Up to 58 percent of high ability students do not attend college due to lack of finances. Thirty percent of the Merit scholars reported relief from financial burden, 17 percent felt an added dedication, and 25 percent can now attend a better college due to the scholarships. "An important incidental result which may not be a result of scholarships exhibited by scholars. . . (is the) shift from science to non-science, from applied to non-applied fields. . . . These trends, if confirmed on subsequent samples of talented youth, may be of considerable interest to persons concerned with supply of scientific personnel." Seven percent of the Merit Scholars tend to shift away from science as freshman. The scholarship programs might well be emphasized in high school.

(254)

Thompson, Robert M.; MacCurdy, Robert D.
"Science Interest is Born"
School and Society
Vol. 85, No. 2105, February 16, 1957, pp 56-57

Field: Science
Application: EDUCATION

One of the influences toward science mentioned most frequently at the Massachusetts science fair was the use of children's scientific toys. Students gain first-hand experience, and most of them had developed an interest in science before the sixth grade or age 13. This early interest is strongly related to career choice.

The child should be exposed to science early (before the sixth grade). Such interests should be identified and channeled as effectively as possible. Teacher demonstrations, blackboard drawings, field trips, and science films are useful aids.

(255)

Traxler, Arthur E.; Townsend, Agatha
Improving the Transition from High School to College
Harper and Bros., New York
1953, 165 pages

Field: All Professional Fields
Application: COUNSELING, EDUCATION

By placing so much emphasis on specific subject requirements, colleges are turning away able students. To increase the admission rate of such students, colleges should emphasize maturity and overall development. Worthwhile work experience and participation in community affairs, recommendations from the high school, appraisal of special abilities, and use of extensive high school test scores could all be incorporated into admission policy. Counseling and accelerated programs are important. By placing the emphasis on the individual, colleges could admit more able students than are enrolled under present admission requirements.

(256)

U. S. Civil Service Commission
Flexibility in the Federal Personnel System
U. S. Government Printing Office,
Washington 25, D. C. August 1958

Field: Science
Application: EDUCATION, RECRUITMENT, UTILIZATION

There is no quick way to increase the total supply of scientists, but within the framework of the competitive examining system the following may aid in recruitment:

1. hire on the spot; get fast appointment action; make offers in January to June grads;
2. spread out routine work; provide career information; use advertising effectively;
3. establish student trainee programs;
4. do not overlook qualifications that make a candidate eligible for a higher grade.

Effective utilization decreases the need for recruitment:

1. tailor the job to fit the man,
2. move scientists among the disciplines,
3. adjust employee classification according to his qualifications.

Employee retention cuts down turnover:

1. know the interests of the employees and cater to their interests--lab facilities, freedom in research, recognition, opportunities for continuing training and education, travel,
2. free the professional from nonprofessional work,
3. provide counseling for employees,
4. give varied assignments.

(257)

U. S. Department of the Army
Job Engineering: Modification of Jobs for Better Utilization of Manpower
May, 1954

Field: All Professional Fields
Application: UTILIZATION

This book describes in some detail the process by which jobs may be redesigned in order to more efficiently utilize skilled personnel. The procedures are designed for a consideration of production work, but appear to be somewhat applicable to other fields.

(258)

U. S. Department of Health, Education, and Welfare
A Mental Health Manpower Studies Program,
National Institute of Mental Health
National Institute of Health,
Bethesda, Maryland 1963, 98 pages

Field: Mental Health
Application: MANPOWER RESEARCH

This book describes a number of projects which NIMH is supporting or intends to support. All of them have to do with the problem of mental health manpower. Several of them deal specifically with the parameters of manpower shortages and would be of great interest when completed.

(259)

U. S. Department of Health, Education, and Welfare
National Institute of Mental Health
Mental Health Personnel Supported Under National Institute of Mental Health Training Grants, Washington D. C. 77 pages

Field: Mental Health
Application: EDUCATION, FINANCING

A study of the characteristics of over 13,000 persons who have been the recipients of NIMH training grants. Unless the characteristics of a group not receiving grants are compared with those who did receive grants, the characteristics that were studied have little to do with the evaluation of the success of the grants. This was not done in this book.

(260)

U. S. Department of Health, Education and Welfare
National Defense Graduate Fellowship Program
Title IV -- National Defense Education Act, A Report on the First Two Years, Office of Education U. S. Government Printing Office, Washington 25, D. C.
12 pages

Field: Teaching
Application: EDUCATION, FINANCING

The Title IV Program under NDEA is trying to increase the number of college teachers in three ways:

1. by awarding 5,500 three-year graduate fellowships over a four year period,
2. by supporting new and/or expanding doctoral programs,
3. by making this support available where it is needed.

In the first two years the Graduate Fellowship Program has enabled 2,500 graduate students to prepare for college teaching. It has influenced the growth of graduate education as witnessed by the awarding of 44 doctorates at the University of Idaho in 1961-62 which had awarded none the previous year. Further, the report lists programs and fellowships.

(261)

U. S. Department of Health, Education, and Welfare
The National Defense Student Loan Program, A Two-Year Report
Office of Education, U. S. Government Printing Office, Washington 25, D. C.
1961, 44 pages

Field: All Professional Fields
Application: FINANCING

Student loans are given under Title II of the NDEA. Special advantages are given for prospective college teachers and for students in science, mathematics, engineering, and foreign languages. The NDEA Student Loan Program is the largest single source of publicly supported student financial aid in the nation. Following is an overview of the program:

1. There was a 32 percent increase in the total Loan Fund in 1960 as compared with 1959.
2. 3.28 times more money was lent to students.

3. 15 percent more institutions participated in the Fund in 1960 than in 1959.
4. 3.8 times more students were approved for loans in 1960 than 1959.
5. Loans were on the average $40 larger in 1960 than in 1959.
6. 2.8 times more medical students were approved for loans in 1960 than in 1959 with an overall 36 percent loan amount increase.
7. 90 percent of the money advanced in 1960 went to prospective high school teachers.

(262)

U. S. Dept. of Health, Education, and Welfare
Report on the National Defense Education Act
Office of Education, U. S. Government Printing Office, Washington 25, D. C.
Fiscal Year ending June 30, 1959
62 pages

Field: All Professional Fields
Application: EDUCATION, FINANCING

This is a comprehensive report on the goals and accomplishments of the National Defense Education Act of September 2, 1958. Early studies show that loans to freshmen far outnumber those made to students of other levels, indicating that many talented high school seniors are being attracted to college because of such loan programs. Many students drop out of college, however, by failing to realize their own potential. Other talented students do not take college preparatory courses. The NDEA has established programs for guidance counselors and teachers to identify and encourage such students.

Under the leadership of science supervisors who plan and carry out programs to help teachers keep abreast of current happenings and trends in the field there have been many new physics courses established, increased enrollment in science, and greater attendance at teacher inservice and summer institutes. There has also been experimentation with electronic equipment as a tool to better utilize teachers' time.

Preparatory courses were made available to high school students and adults who wished to become technicians. The 1959 enrollment of 47,500 is expected to double.

(263)

U. S. Department of Health, Education, and Welfare, Public Health Service,
Toward Quality in Nursing: Needs and Goals
Report of the Surgeon General's Consultant Group on Nursing.
February 1963
(Public Health Service Publication No. 992)

Field: Nursing
Application: ANCILLARY PERSONNEL, EDUCATION, FINANCIAL AID, RECRUITMENT, UTILIZATION

The Consultant Group on Nursing was appointed in the spring of 1961 by the Surgeon General of the Public Health Service for the purpose of advising him on nursing needs and of identifying the appropriate role of the Federal Government in assuring adequate nursing services during the rapid population increase of the next decade. Projections are made of the probable numbers of nurses who will be needed in 1970.

This report concerns itself with the major groups of nursing personnel, with emphasis on the need for the development of patterns for the more efficient utilization of ancillary personnel. Recruitment, education, financing, and research are discussed in detail.

"The first five chapters. . . identify nursing service needs and establish goals for the coming decade (Part One: Needs and Goals). Ways of approaching nursing service goals are discussed in the remaining six chapters (Part Two: Moving Toward the Goals). Part Two also contains the Consultant Group's Recommendations for federal action to help assure adequate nursing services.

(264)

U. S. Department of Labor
College Women go to Work: Report on Women Graduates Class of 1965
Washington 25, D. C.
Women's Bureau Bulletin No. 264
1958, 41 pages

Field: All Professional Fields
Application: CAREER CHOICE, MANPOWER RESOURCES, UTILIZATION

Women represent almost one-third of the Nation's workers and will probably supply some of the additional labor force needed in the future. Guidance counseling and information services are important in providing a basis for career decisions. This report surveys 5,411 women graduates (1956-1957) and finds that 59 percent became teachers, 5 percent became nurses, and 3 percent became biological technicians. The appendix contains charted data on occupations, salaries, job source, etc.

(265)

U. S. Department of Labor
New Teachers for the Nation's Children - An Idea for Community Action
U. S. Government Printing Office:
Washington 25, D. C.
1955, 10 pages

Field: Teaching
Application: EDUCATION, RECRUITING, UTILIZATION

To increase the supply of teachers, the article suggests offering accelerated high quality teacher training to mature college graduates, mainly women, in communities where the teacher shortage is acute. Four basic features of the plan are:

1. careful screening of applicants,
2. study for standard accredition,
3. accelerated training programs under State approved educational institutions,
4. community sponsored recruitment programs.

We can increase the supply of qualified teachers by:

1. persuading a much higher proportion of college-age youth to prepare for teaching,
2. holding qualified teachers for a longer period of service,
3. reemploying former teachers,
4. recruiting and training mature women who are college graduates.

The article suggests what individuals can do to help.

(266)

U. S. Department of Labor
Report of the Secretary of Labor on Research and Training Activities Under the Manpower Development and Training Act
U. S. Government Printing Office
Washington 25, D. C.
February 1963, 135 pages

Field: All Professional Fields
Application: EDUCATION, MANPOWER RESOURCES, UTILIZATION, VOCATIONAL DEVELOPMENT

This report discusses the Manpower Development and Training Act, lists applicable current research, and includes a bibliography. The underemployed and unemployed are offered classes and on-the-job training while receiving a weekly allowance. Often the allowance is so small, however, that the trainee is forced to take part-time work, which reduces his allowance. Suggestions for initiating training courses come from local advisory committees, other community groups, and government agencies. After four months of operation 8,955 persons were referred to courses after having been tested and counseled.

Special untapped resources of manpower are Indians, migrant workers, physically and/or emotionally handicapped, women, rural and urban youth, older workers, and minority groups. Improved counseling and an end to discrimination would better utilize the present labor force. Greater mobility of the labor force could eliminate unemployment in some areas and shortages of personnel in others.

A partial list of the number of trainees approved in 1962 under MDTA follows:

1. medical lab assistants--18,
2. operating room and surgical technicians--62,
3. practical nurses--652,
4. nurses' aides--401,
5. medical records technicians--16.

(267)

U. S. Department of Labor
The Skilled Work Force of the United States
U. S. Government Printing Office,
Washington 25, D. C.
1955, 30 pages

Field: All Professional Fields
Application: COUNSELING, EDUCATION, VOCATIONAL DEVELOPMENT

"Following are some ways by which the work skills of the Nation can be increased and strengthened:

1. By more individuals putting forth the special efforts required to learn a skill.
2. By industry providing men with opportunities to acquire skill while they work.
3. By industry and labor jointly improving apprenticeship and other types of training programs.
4. By State and local governments strengthening their educational systems which provide the foundation for the acquisition of skill.
5. By community actions that strengthen vocational guidance services to all groups, thereby helping individuals to make the best possible use of their abilities."

(268)

U. S. Government Printing Office
Kennedy, John F.
Program for Education, Message from the President of the United States Relative to a Proposed Program for Education, and a Draft of a Bill to Strengthen and Improve Educational Quality and Educational Opportunities in the Nation,
Washington 25, D. C.
1963, 68 pages

Field: All Professional Fields
Application: EDUCATION, FINANCING

In his message prefacing the proposed education program the President made numerous recommendations, such as:

1. improve the quality of instruction,
2. stimulate interest in learning,
3. educate more and better teachers,
4. offer better attention for slum and distressed areas,
5. give increased attention to vocational and technical education.

Recommended legislation included:

1. extend the NDEA student loan

program and increase financial assistance to students,
2. establish work-study programs,
3. increase the number of fellowships,
4. raise teacher salaries.

The publication details also provide previously authorized and newly proposed appropriations in a draft of a bill to strengthen and improve education.

(269)

Vestermark, Seymour D.
"Training and its Support Under the National Mental Health Act"
American Journal of Psychiatry
Vol. 106, No. 6, December 1949
pp 416-419

Field: Mental Health
Application: EDUCATION, FINANCING

The author outlines the objectives of the training program under the Mental Health Act. Recommendations of things yet to be done are:

1. institution of a "school-leaving fellowship " (Excellent medical students would get psychiatric stipends for special training in psychiatry, given with the intention that the trainee return to the area from which he came and complete his training at the institution of his choice.),
2. a program to send the student to an amalgamation of psychiatric training facilities for a well-rounded education,
3. the conducting of research in the area of attendants and auxiliary personnel.

(270)

Waggoner, George R.
"Starting the Program Early"
Superior Student
Vol. 1, No. 2, May 1958, pp 11-12

Field: All Professional Fields
Application: EDUCATION

The highest college attrition rate is during the first year of college. There is a lack of stimulating material and a duplication of many high school courses. There is a need to identify freshmen of outstanding ability and offer them an honors program. The gifted need the best advice and instruction.

(271)

Walsh, John
"Advanced Degrees: Discrimination Wanes as a Barrier to Negro Graduate Students; Other Hurdles Remain"
Science
Vol. 141, No. 3585, September 13, 1963, pp 1019-1021

Field: All Professional Fields
Application: EDUCATION, FINANCING

Negro higher degree candidates are scarce due to lack of funds and financial support. One major foundation finances a post-graduate year for Negroes with high potential who have won fellowships but need further training. Many have a poor background in education due to the separate but equal schools.

(272)

Walsh, John
"Scholarships: A New Study on Who Gets Them and Who Needs Them by the American Council on Education"
Science
Vol. 141, No. 3579, August 2, 1963
pp 413-414

Field: All Professional Fields
Application: EDUCATION, FINANCING, UTILIZATION

Scholarships alone cannot provide the additional graduate students needed. A method of identifying, encouraging, and financially aiding capable but underprivileged students is needed, especially in the case of minority groups. Often students in the high income bracket get the most scholarships because of a preference for expensive colleges.

(273)

Warner, Glen W.
"Our Science Manpower Shortage"
School Science and Mathematics
Vol. 57, No. 6, June 1957, pp 451-452

Field: Science
Application: EDUCATION

Small institutions often lack facilities to prepare students adequately for college mathematics and science courses. To remedy this colleges could offer credit courses and/or summer courses in elementary science so that the students can acquire competence to take further science courses.

(274)

Waters, E. Worthington
"Vocational Aspirations, Intelligence, Problems, and Socio-Economic Status of Rural Negro High School Seniors on the Eastern Shore of Maryland, Their Implications for Vocation Guidance"
Journal of Negro Education
Vol. 23, No. 4, Fall 1954, pp 502-505

Field: All Professional Fields
Application: CAREER CHOICE, RECRUITMENT, UTILIZATION

To help Negroes in their career choices the author recommends:

1. gathering data and presenting it to the pupil for a more realistic career aspiration,
2. individual analysis of aptitudes and interests,
3. giving more attention to problems affecting the mental and physical health of pupils in rural areas,
4. inservice training in guidance techniques for counselors,
5. more exploratory courses in junior high and high schools,
6. guidance of drop-outs.

(275)

Watson, Andrew S.
"Teaching Mental Health Concepts in the Law School"
American Journal of Orthopsychiatry
Vol. 33, No. 1, pp 115-122

Field: Mental Health, Law
Application: EDUCATION, UTILIZATION

"Law schools are viewed as prime targets for the practice of social or preventive psychiatry. The pivotal role lawyers play in the making of social decisions indicates that their knowledge of the behavioral sciences should be increased. This paper describes some behavioral science concepts that can be taught . . . (and) methods for doing so."

(276)

Weaver, Edward K.
"Development of Science Curricula in Negro Schools"
Journal of Negro Education
Vol. 25, No. 2, Spring 1956

Field: Science
Application: ADMINISTRATION, EDUCATION, VOCATIONAL DEVELOPMENT

"Lack of adequate support, faltering administrative outlook and support, limited competence of teachers, restricted occupational opportunities, and clouded and uncertain standards and values have combined to inhibit growth, and development of science education programs in educational institutions in which Negroes predominate."

(277)

Webb, C. B.
"Recruiting in St. Louis"
Library Journal
December 15, 1958, pp 3472-3475

Field: Librarianship
Application: EDUCATION, RECRUITMENT

Some ideas for recruiting potential librarians are:

1. invite high school newspaper and literary magazine editors for a tour of the library, a talk, and "coke party",
2. contact PTA in regard to recruitment,
3. plan a visit to the library for high school assistant librarians,
4. advertise the need for librarians in college papers,
5. develop a librarian trainee program,
6. develop an inservice training program,
7. participate in career days,
8. invite lecturers and panel discussions.

At one career day, librarians operated a booth which included a life-sized mannequin to attract attention. Each recruiter filled out a question sheet asked by the patrons along with comments and reactions. The booth was successful because:

1. literature was distributed,
2. the librarians manning the booth became more conscientious, and planning for the career day reawakened the whole librarian staff,
3. a mailing list of potential librarians was obtained.

(278)

Weinberg, Alvin M.
"Federal Labs and Science Education"
Science
Vol. 136, No. 3510, April 1962
pp 27-30

Field: Science
Application: EDUCATION, UTILIZATION

The author feels that since the government employs many Ph.D's not involved in the training of students, basic research and graduate science education should be interwoven. More scientific centers of excellence are needed and graduate students would add zest to the research programs. This might be accomplished through the gradual conversion of federal laboratories into research institutes which participate directly in education. The researchers could teach half time and perform research half time. Summer institutes and traveling lectures are already being given by the government, but this is not sufficient. The government could encourage such arrangements, and federal labs might make staff members available for educational work and perhaps grant sabbatical leaves for teaching.

(279)

Weisner, J. B.
"Strengthening the Behavioral Sciences-The Behavioral Sciences Sub-panel of the President's Science Advisory Committee Surveys the Underlying Needs and Recommends Action to Meet Them"
Science
Vol. 136, No. 351, April 20, 1962
pp 233-241

Field: Science
Application: ANCILLARY PERSONNEL, EDUCATION

The major recommendations of the author are as follows:

1. strengthen universities' primary experience with research and increase the support for training,
2. use special educational facilities and increase efforts to

give students data through clinical material, field trips, and laboratory work,

3. hold summer institutes over a long range program to bring research workers and teachers up to date on new techniques and data. A small core staff plans the program throughout the year,
4. provide advice to the government.

(280)

West, Margaret D.
"Manpower for the Health Field: What are the Prospects?"
Hospitals, Journal of the American Hospital Association
Vol. 37, September 16, 1963
pp 83-88

Field: Medicine, Nursing
Application: EDUCATION, FINANCING

The author states that all the health fields except medicine are increasing numerically faster than is the population. Reasons for the physician shortage are the length and cost of medical training and competing opportunities. The bottleneck is training capacity. The supply of nurses, however, has increased due to married nurses returning to practice, foreign nurses, and practical nurses. A short term and temporary answer to provide health manpower is the reliance on workers with less training than professionals. Distribution problems are discussed.

(281)

Western Interstate Commission on Higher Education
Fourth Annual Training Session on Postgraduate Education for Non-psychiatric Physicians
Boulder, Colorado
WICHE, June 1961, 18 pages

Field: Mental Health
Application: UTILIZATION

At this West Coast gathering of prominent persons in the mental health field there was discussion on how non-psychiatric physicians might be taught psychiatric techniques. Each speaker assumed that the non-psychiatric physician should be in some specific role, but this role was not defined. Considerable attention should be paid to subject matter before teaching methods are discussed.

The appendix contains a list of the criteria to be used in evaluating a postgraduate education program.

(282)

Western Interstate Commission for Higher Education
Meeting the West's Health Manpower Needs
Boulder, Colorado WICHE, 1960
75 pages

Field: Mental Health
Application: EDUCATION, FINANCING, RECRUITMENT

This article provides a description of the present situation in health manpower and recommendations for improvement.

1. The University of Colorado and other Colorado institutions are improving recruitment by introducing selected students to mental health fields through paid summer jobs.
2. To meet mental health personnel shortages, WICHE recommends:
   a. better use of personnel,
   b. up-grading of personnel,
   c. improvement of recruitment and employment practices,
   d. coordination and realistic planning.
3. A student exchange program permits the states without pro-

fessional schools to buy space for their students in a western school of medicine.
4. Regional inservice training for staff of Western Mental Health Institute is a preparation for management positions.
5. A regional pilot program provides training for western M.D.'s.
6. There is recruiting by means of a summer work-study program.

(283)

Whipple, George H.
"Medical Students: Source, Selection, Training"
Science
Vol. 142, No. 3592, November 1, 1963
p 541

Field: Mental Health
Application: EDUCATION, RECRUITMENT

To recruit and train more students in the mental health fields, the following suggestions are offered:
1. parents should encourage children,
2. summer work in hospitals should be offered,
3. careful selection of applicants is necessary,
4. broad college training should be emphasized,
5. small classes with teacher-pupil communication are important,
6. medical research needs further stimulation.

(284)

White, Olive
"TWI Methods of Teaching Auxiliary Personnel"
American Journal of Nursing
Vol. 46, June 1946, pp 394-398

Field: Nursing
Application: ANCILLARY PERSONNEL

King County Harborview Hospital has instituted a training program for auxiliary workers to compensate for the professional nursing staff shortage. Auxiliary workers are frequently in the way and unsure of themselves. To step up efficiency the workers at Harborview get individual instruction in four grades of work--housekeeping, transportation and communication, patient care, and clerical work. The more capable workers are trained in all grades while the less capable are trained only for those grades in which they are competent. The orientation program is especially important.

The training for auxiliary workers has reduced turnover since workers feel more useful and secure, staff morale has been raised, more and better applicants are admitted, and the head nurses' loads have been lightened.

(285)

Whittemore, Irving C.
"The Manpower Symposium at the 1952 Annual APA Meeting"
American Psychologist
Vol. 8, No. 3, March 1953, pp 119-122

Field: Mental Health
Application: EDUCATION, UTILIZATION

Three points brought out at the symposium are:
1. To use personnel most effectively the individual must be placed appropriately according to his skills.
2. Nearly two out of three of the 37 percent of total top scoring students (above 120 on the AGC test) do not graduate due to lack of money, lack of preliminary training, or lack of interest.
3. "When the pressures for manpower become stronger than they are at the moment, the whole concept of student and occupa-

tional deferment will be at stake."

(286)

Williams, C. G.
"Applied Science in Schools"
The Chartered Mechanical Engineer
Vol. 11, No. 1, January 1964
pp 25-27

Field: Engineering
Application: EDUCATION, RECRUITMENT

Publicizing engineering careers can be done through:
1. lectures to schools,
2. TV programs,
3. conferences with science teachers and counselors,
4. student visits to engineering firms.

The author suggests that high school and lower schools can benefit from the installation of applied science laboratories. At the Ealing Grammar school in England the principal reported favorably on such an experiment. In their free time the students work at the lab. If it is impossible to construct a lab annex, the students can use the equipment at the technical colleges. If this is integrated into the course work it might ultimately be applied toward college entrance requirements.

(287)

Wilson, John T.
"Government Support of Research and its Influence on Psychology"
American Psychologist
Vol. 7, 1952, pp 714-718

Field: Psychology
Application: FINANCING, RECRUITMENT

Approximately 8,000,000 dollars was spent by government on psychological research with the following results:
1. more productivity,
2. more young research psychologists as a result of extensive training opportunities,
3. wider range of research projects,
4. better communication due to increased symposia and conferences.

(288)

Wirth, Conrad L.
A Plan for the Man -- A Tool to Unleash Creativity and Potential in the National Park Service
U. S. Government Printing Office
Washington, D. C.
1963, 71 pages

Field: All Professional Fields
Application: EDUCATION, UTILIZATION

This plan is primarily concerned with the development of employee talent. Job rotation and temporary replacement while the superior is on vacation enlarges the capabilities of the employee. Numerous employer-employee discussions are recommended where goals and methods should be discussed. A chart of techniques to develop employees into managers is included. Some suggestions are as follows:
1. lateral transfers,
2. special projects,
3. understudy programs,
4. inservice training,
5. field trips,
6. tours and visits,
7. educational courses,
8. foreign travel and study,
9. leaves of absence for advanced academic work.

(289)

Wise, Harold E.
"Critique of Teaching Objectives in Secondary Schools"

American Journal of Physics
Vol. 23, No. 7, October 1956
pp 415-423

Field: Teaching
Application: EDUCATION, REORGANIZATION

"Formal statements of the objectives of secondary education place major emphasis on the common needs of youth" and minimize the importance of developing the potential abilities of outstanding students and their preparation for college. Emphasis in the preparation of teachers is on the professional aspects of teaching, often at the expense of subject matter, while the school program suffers from a number of 'maladies' such as 'curriculum dilution', the philosophy of 'no failures' and an excess of extracurricular activities.

"To increase the supply of potential physicists, it is suggested that emphasis be placed on the better preparation of teachers and on securing their continuing tenure on a 12-month basis at salaries comparable to those paid in the professions requiring similar ability and preparation. To accomplish these ends it is suggested that high school science and mathematics teaching be placed under federal regulations similar to those which now govern vocational agriculture and home economics under the Smith-Hughes law."

(290)

Wolfbein, S. L.
"Technicians and the Utilization of Professional Manpower" from conference The Utilization of Scientific and Professional Manpower, Columbia University Press, New York, 1954
pp 48-64

Field: All Professional Fields
Application: UTILIZATION

This study provides a general consideration of the role of the technician in aiding the effective utilization of professional persons. Although a "technician" is defined as a person of "less than college level" who carries out specific tasks which are part of the work of a profession, it would seem that a better definition would be in terms of the technician's functional relationship to other components of the labor force.

Using the broader definition, the category "technician" includes the professions of registered nurse and pharmacist, bringing the technician/doctor ratio up to two to one, as opposed to one to three under the narrower definition.

It should be noted also that, although this study points out several facts of interest in any consideration of how technicians may aid in utilization of professional time, it does not present enough information on methodology.

(291)

Wolfe, J. M.
"Alleviating the Shortage of Nurses"
School and Society
Vol. 84, No. 2098, November 10
1956, pp 162-164

Field: Nursing
Application: RECRUITMENT

Over 27 percent of all employed nurses are over 45 years of age. More nurses can be recruited from the over-35 and inactive nurse groups. In a two-year training program at Brooklyn College it was found that although the women over 42 have a higher drop-out rate due to poor scholarship, they are more likely to persevere than were younger students. In order for recruitment of persons over 35 to be effective, institutions must make special adjustments for this group, such as counseling services and special mathematics classes.

(292)

Wolfe, Ruth W.
"Technical Manpower Shortage"
School Science and Mathematics
Vol. 57, No. 1, January 1957
pp 63-69

Field: Science
Application: EDUCATION, UTILIZATION

Behind the shortage of technical personnel lies a lack of science and mathematics teachers. More funds should be spent on better teachers and salary raises. Arthur A. Burr believes that five to ten percent of the nation's engineering juniors could omit their senior years; this would save one to two thousand manpower years through acceleration. College level topics could be introduced in high school.

For those small schools which do not offer enough science courses, lists of supplementary reading, workbooks, experiment kits, and tests could be supplied. There is an overall need for audio-visual equipment. TV courses might reach the drop-outs.

The teachers can help to alleviate the manpower shortage by:

1. securing adequate personal training,
2. helping in the selection and guidance of students,
3. using all available facilities to instruct and guide students,
4. enlisting the interest and help of community leaders in business, industry, labor, government, school administration, service organizations, and the P.T.A.

(293)

Wolfle, Dael
"Diversity of Talent"
American Psychologist
Vol. 15, No. 8, August, 1960

Field: All Professional Fields
Application: EDUCATION, FINANCING

The author suggests that awards be given not only to outstanding pupils in overall performance but also to those who do well in special fields but not so well in others. This way more students could receive financial aid and continue their education.

(294)

Wolfle, Dael
"Future Supply of Science and Mathematics Students"
The Science Teacher
September 1953, pp 157-160 and 210

Field: Science
Application: EDUCATION, FINANCING

It is likely that the demand for scientists will, in the future, continue to exceed the supply. The number of engineers and scientists is already considered by many to be low. The problem is that a large number of competent students do not pursue their education. Only about one-half of these stop because of financial difficulties. There are two choices: (1) get a greater percent of students into science or, (2) get a larger number of students into college. The latter is the better alternative.

(295)

Wolfle, Dael
"Intellectual Resources"
Scientific American
Vol. 185, No. 3, pp 42-46

Field: All Professional Fields
Application: EDUCATION, FINANCING

Many intelligent people either drop out of or choose not to begin college at all. The community in general and teachers specifically should encourage those students who score highly on ability tests. A special high school for bright students should be instituted, and bright students in regular classes should be allowed to proceed at their own pace. Financial assistance and a chance to work in their chosen field may cut down the number of drop-outs.

(296)

Wolfle, Dael
Book Review of The Negro in Science
by Julius H. Taylor
Science
Vol. 122, December 23, 1955
pp 1237-1238

Field: Science
Application: RECRUITMENT, UTILIZATION

Though there are few Negro scientists due to discrimination in education and job opportunities, there are now more offers for Negroes than ever before. This book consists of reprints of papers published by Negro scientists. "The trends are encouraging, but there is not yet equality of opportunity. Until there is, America will be wasting a good portion of its needed intellectual resources."

(297)

Wren, George R.
"Why Waste Scarce Manpower with a Fixed Retirement Age?"
Hospitals, Journal of the American Hospital Association
Vol. 38, January 16, 1964, pp 68-70

Field: All Professional Fields
Application: UTILIZATION

In an attempt to solve problems such as turn-over, hospitals have adopted fringe benefits like those of industry. Although such policies are generally beneficial, the retirement age should not be too rigidly fixed, since there are some employees who should be retired before age 65 and others who should be retired much later than that. Allowing employees in professional positions to continue working tends to alleviate the manpower problems.

(298)

Wrieden, J. E.
"Social Service in Hospitals"
Hospitals, Journal of the American Hospital Association
Vol. 37, April 16, 1963, pp 172-174

Field: Social Work
Application: ANCILLARY PERSONNEL, RECRUITMENT

A National Institute of Mental Health study (1962) was an innovation because it was focused on the use of professional social workers at the level of their greatest skill only, instead of requiring them to perform all things in a unit. Related to the effective utilization of professional personnel is the use of paid non-professional personnel and trained volunteers where possible. For recruitment the article suggests participation in hospital career days and demonstrations of social service contributions.

(299)

Wright, Marion J.
"Staffing the Nursing Service"
Hospitals, Journal of the American Hospital Association
June 16, 1963, pp 91-93, 96, 99

Field: Nursing
Application: ANCILLARY PERSONNEL, SUPPLY, UTILIZATION

"The author covers the many factors that must be considered when planning a nursing staffing pattern for a hospital. She reviews many of the problems found in the smaller hospital and presents suggestions for solving them. An example of the staffing unit in one hospital is presented with a description of the supportive services to nursing that make it workable."

Some of the nursing resources used by small town hospitals include:
1. local high-school girls,
2. married women who can work part time.

In addition, the author suggests:
1. analyses to see if the nurse is using her time in a manner comparable to her professional training,
2. heavy usage of aides for non-professional duties.

One attraction used to get women back into part-time nursing is the offering of half fringe benefits to those who work 20 hours per week.

(300)

Wright, William E.
"The Contribution of the Joint Program of the Office of Naval Research and the Atomic Energy Commission to the Supply of Trained Scientific Workers"
American Journal of Physics
Vol. 120, No. 5, p 314

Field: Physics
Application: EDUCATION, FINANCING

The programs in research of the Office of Naval Research and the AEC have made a substantial contribution to the graduate training of 27 percent of the Ph.D.'s in physics between 1946-47 and 1949-50. These men comprise 75 percent of the nuclear physcists produced during that period.

(301)

Zellerbach, J. D.
"Issues in the Utilization of Scientific and Professional Manpower"
The Utilization of Scientific and Professional Manpower (Conference), Columbia University Press, New York, 1954, pp 3-10

Field: All Professional Fields
Application: UTILIZATION

This is an address by the president of National Manpower Council to a conference on utilization of manpower. He points out several issues and emphasizes the "national needs" approach.

(302)

American Council on Education Studies
Series VI - Student Personnel Work
"How Can Teacher-Counselors Improve Their Work?"
Vol. 12, No. 10, October 1948
Washington, D. C., pp 38-45

Field: Teaching
Application: EDUCATION

Improvement of counseling service can be achieved through the use of:
1. conferences with other personnel workers,

2. summer conferences,
3. reading of applicable literature,
4. inservice training and the use of up-to-date vocational material for counseling.

(303)

American Journal of Nursing
"Time and Tools for Recruitment"
Vol. 51, No. 4, April 1951, p 253

Field: Nursing
Application: MANPOWER RESOURCES, RECRUITMENT

Tools for recruitment:
1. pamphlets, posters, books, bulletin board displays, news ads, TV material, radio. (A film with Helen Hayes was televised to recruit nursing students),
2. literature with stress on recruiting men and Negroes,
3. encouragement of local business firms to support recruitment,
4. utilization of the numerous films for distribution.

(304)

American Library Association Bulletin
"Recruitment Workshops"
Vol. 55, November 1961, p 875

Field: Librarianship
Application: RECRUITMENT

This is a report of the recruitment for a librarianship workshop held in Seattle on May 5, 1961, which was sponsored by the Washington Library Association and the School of Librarianship of the University of Washington.

The objectives were to:
1. acquaint students, librarians, and educators with the field of librarianship,
2. discuss the positions and activities of the librarian,
3. explain the interests and talents utilized in librarianship,
4. exhibit a cross-section of libraries in action,
5. provide an opportunity to meet and consult with a variety of people in libraries.

(305)

Aviation Week
"Engineer Recruitment Drive Gains Steam"
March 24, 1958, pp 18-19

Field: Engineering
Application: EDUCATION, RECRUITMENT

This article indicates a diminished interest in college graduates with bachelor's degrees in engineering. Industry is now looking for specialists and for persons with advanced degrees, with the result that only one in eight of the interviewees who have no more than a B.S. are offered positions. This situation has acted as a negative stimulus in encouraging the attainment of advanced degrees.

Also indicated is the problem encountered by graduates with under five years of experience in finding employment.

(306)

Aviation Week
"Engineers Propose Shortage Solutions"
Vol. 64, May 7, 1956, p 55 and 59.

Field: Engineering
Application: ANCILLARY PERSONNEL, FINANCING, RECRUITMENT

This is a report of proposals made by engineers, managers and educators for long and short term solutions:

1. interest engineers already in other fields in pursuing aeronautical careers by emphasizing eventual management positions,
2. use machines and non-engineering personnel where possible,
3. increase grants, fellowships and loans,
4. spend more money on materials to save engineer man-hours,
5. start recruitment from high school and primary school through documentary films, etc.
6. increase possibility of good morale between departments,
7. increase professional standing.

(307)

Business Week
"Drive Opens to Train More Psychiatrists:
Corporate Foundation for Research and Training in Psychiatry"
June 5, 1954, p 156

Field: Psychiatry
Application: FINANCING

Twenty-nine medical schools and psychiatric hospitals have formed the Corporate Foundation for Research and Training in Psychiatry to raise the $8.5 million a year needed to train psychiatrists. This Corporate Foundation hopes to provide funds to train an additional 1,000 psychiatrists during the next 10 years. It is hoped that this Foundation will be able to increase the discharge rate from 50 percent to 80 percent, through better treatment and more adequate staffs.

(308)

Business Week
"Getting More Mileage Out of The Engineer"
October 20, 1955, p 43

Field: Engineering
Application: ANCILLARY PERSONNEL, EDUCATION, RECRUITMENT, UTILIZATION

This article presents a report of the Cooper Union's convention on the shortage of engineers and scientists and what can be done to alleviate the shortage.

The following suggestions are made:
1. improvement of science and mathematics instruction on all school levels,
2. improvement of recruitment methods to attract more students into scientific careers,
3. recognition for engineers,
4. minimizing of routine activities,
5. use of technical aides and electronic calculators.

(309)

Business Week
"How to Beat the Engineer Shortage"
February 9, 1952, pp 46-48

Field: Engineering
Application: EDUCATION, FINANCING, RECRUITMENT, UTILIZATION

This article presents a general plan used in industry for maintaining production even though engineering departments are undermanned. It also tells how to attract more engineers into the industrial pool. Some methods are:
1. maximize efficiency in utilizing existing manpower,
2. use propaganda methods on persons influential on high school students, i.e., teachers, parents, and counselors,
3. use "earn while you learn" programs where the students can work and earn a salary while simultaneously receiving advanced training.

(310)

Business Week
"Luring Manpower from Overseas"
November 10, 1956, pp 190-192, December 29, 1956, p 5, January 19, 1957, p 5

Field: Engineering, Science
Application: RECRUITMENT

This article describes the activities of the Amerigo D'Agostino Associates, which recruits engineers and scientists for U. S. companies. The companies have offices in many European countries as well as in the U. S. The last two articles are letters discussing the various types of bait used to attract recruits. Some of these are: money, promotions and chance to study on company money, and high standards of living. Both letters emphasized eliminating the waste of our own manpower before we recruit from other countries.

(311)

Business Week
"Use 'em Better"
September 13, 1952, p 62

Field: Engineering
Application: FINANCING, UTILIZATION

This report presents a set of recommendations made by the Engineering Manpower Commission and Engineers Joint Council in Chicago. These recommendations include the following:

1. legislation should be passed to give technical personnel some special selective service treatment, including the deferment of specialized, critical personnel, such as is given to doctors, dentists and farm workers,
2. industry should be advised to set up manpower budgets, use manpower more efficiently by parceling out responsibilities, and maintain salary differentials between senior engineers and recent graduates.

(312)

Changing Times
"New Ways to Cure the Teacher Shortage"
Vol. 9, January 1955, pp 23-24

Field: Teaching
Application: EDUCATION, UTILIZATION

This article provides a description of the ways in which various communities are meeting their teacher shortages. The general plan is to seek out college-trained mothers between 30 and 50, to give accelerated teacher-training, and to send them to work at paid teaching jobs. In Detroit, the program included 18 weeks of practice teaching, with 3 afternoons each week for seminars and classroom training. In Southern California, candidates were placed in teaching jobs under the guidance of veteran teachers after 6 to 9 weeks of summer courses. After another 6 to 9 weeks of training they will become eligible for certification. Montgomery County, Maryland has a similar program of intensive practice teaching combined with seminars and classroom training. In all cases, every candidate has been placed in a teaching position.

It is suggested that PTA, service, and professional organizations might take the lead in starting such programs and in finding candidates for them.

(313)

Changing Times
"New Way to Cure the Teacher Shortage: Discussion"
Vol. 9, March 1955, pp 47-48

Field: Teaching
Application: EDUCATION, FINANCING

In letters about the accelerated teacher training program Mr. W. M. Allen advocates retraining teachers after they marry and allowing time off to have children; Mr. Robert Marvin, in favor of quality rather than quantity, opposes diluting the requirements. "Teachers should be treated as a specialist and should be rewarded as such, financially."

(314)

Higher Education in the West
Pastors and Psychiatrists Join Forces - Clergy's Role in Mental Health Discussed"
Vol. 10, No. 1, October 1963, p 1

Field: Mental Health
Application: ANCILLARY PERSONNEL, EDUCATION

At a recent series of seminars in Anchorage, Alaska, major emphasis was placed on stimulating education opportunities in the community and in universities to stimulate pastors to increase their skill in handling mental and emotional problems of their parishioners. It was stated that the pastor needs these skills, particularly in helping his parishioners through a time of stress, including the return to the community of a hospitalized mental patient. The idea of a traveling team to assist in the development of community mental health centers was proposed.

(315)

Hospitals, Journal of the American Hospital Association
"Ohio Hospital Sponsors Explorer Post for Boys"
Vol. 38, February 1, 1964

Field: Medicine
Application: EDUCATION, VOLUNTEERS

A hospital in Euclid, Ohio, sponsors an Explorer Post of over 50 members. The members are given help in planning their education, and are allowed to do volunteer work at the hospital. Thus they are introduced to many phases of the practice of medicine which they might otherwise miss.

(316)

Hospitals, Journal of the American Hospital Association
Special Report: "Advisory Group sees 'Critical Problems' Ahead in Nursing"
Vol. 37, March 16, 1963, pp 21, 24, 26

Field: Nursing
Application: EDUCATION, FINANCING, RECRUITMENT

Seven problems are listed which represent a nursing shortage. Remedies which should be instituted are:

1. stimulation of nursing school recruitment,
2. expansion of Public Health Service financial aid,
3. appropriation of federal funds for demonstrations, experiments, and retraining,
4. identification of necessary changes so that nurses can meet their professional responsibilities in times of technological and scientific advance,
5. appropriation of program grants for inservice training, continuing nurse education and recruitment agencies.

(317)

Hospitals, Journal of the American Hospital Association
"Medical Education"
Vol. 183, No. 4, January 26, 1963
pp 278-279

Field: Medicine
Application: EDUCATION

The Western Reserve educational experiment is allowing students a broad medical environment through:
1. new ways of presenting material,
2. improved communication between departments,
3. true interdepartmental teaching,
4. better correlation of material.

Each student was assigned a project and director, and no grades were given. This experiment was instituted due to the complaint against colleges that a stifling effect results from an overemphasis on grades, too great a reliance on lecture courses, an excessive number of departments, overemphasis on examinations, and aloofness of senior faculty.

(318)

Journal of the American Medical Association
Special Report, "Medical Education Loans, Public and Private"
Vol. 187, No. 1, January 4, 1964
pp 47-51

Field: Medicine
Application: FINANCING

Both the American Medical Association Education and Research Foundation and the government give loans to medical students. The AMA-ERF Program has the following features:
1. interns, residents and medical students are eligible to borrow up to $1,500 a year and up to $10,000 for the entire training period,
2. no payments are due until five months after residency,
3. medical schools need not give matching funds,
4. there is no limit on available funds.

The government program has these provisions:
1. interns and residents are not eligible,
2. there is a $2,000 maximum,
3. funds are not usable with National Defense Education Act funds,
4. payments are due three years after finishing school. This may mean repayment during internship or residency,
5. schools must put up $1 for every $9.

The cost of providing private or tax-supported loans is equivalent--the difference is that in the former the borrower pays the bill through a higher interest rate, while in the latter the tax-payers pay. Having the borrower pay for the AMA-ERF Program distinguishes "need" from "demand" because those who do borrow are reflecting genuine need.

(319)

Journal of Engineering Education
"Higher Education as a National Resource -- A Federal Program Proposed by the American Council on Education"
Vol. 53, No. 7, pp 427-433

Field: All Professional Fields
Application: FINANCING

The council proposes federal aid to alleviate the financial shortage in higher education through:
1. assistance for teaching facilities in medicine and other health professions,
2. federally sponsored research,
3. assistance to college technical programs,
4. publication of NDEA research results,
5. an international agreement providing for tariff free import on books and scientific equipment.

(Through such an agreement more medical equipment could be acquired for superior education and research.)

The Council mentions that the National Science Foundation and National Aeronautics and Space Administration give grants and fellowships and makes the following suggestions:

1. the $250,000 ceiling on federal contribution should be removed,
2. new four-year undergraduate scholarships should supplement NDEA program.

(320)

Journal of the Michigan State Medical Society
"Future Physicians Club Successful in Saginaw"
Vol. 62, No. 3. March 1963, pp 253-254

Field: Medicine
Application: RECRUITING

The Saginaw County Medical Society started a Future Physicians Club which attempts to show high school students what the field of medicine is really like through trips to hospitals, demonstrations by doctors, and lectures. They are also introduced to the realities of the expenses of medical education. The physicians who organized the clubs feel that they are useful recruiting devices despite the fact that they probably get very few persons into medicine.

(321)

Library Journal
"Grant from Reference Book Libraries Aids Library Recruiting -- North Carolina Recruitment Conference"
Vol. 83, June 15, 1958, pp 1890-1891

Field: Librarianship
Application: RECRUITMENT

The conference planned a demonstration mainly for high school students but also for college students. Separate kits of recruiting equipment with instructions for their use and application were prepared for potential recruiters who attended workshop programs. A full time coordinator acts as supervisor.

(322)

Library Journal
Recruitment Series
Vol. 87, pp 38-42

Field: Librarianship
Application: RECRUITMENT

Several recommendations and suggestions are made for reducing the librarianship shortage. These include: emphasis on the personal approach rather than the use of written material; publications and dramatization of the profession, its opportunities, shortages, and salary; development of more "incentive and subsidy" programs through preferred pay scales in favor of professional schools, etc.; and taking immediate steps to bridge the gap between high school and college by formally outlining pre-professional four-year programs in college catalogues and reminding educators and vocational counselors of the demand for librarians.

(323)

Machine Design
Engineering Attitudes No. 3
"How Managements Can Increase Engineer Efficiency"
January 3, 1963, pp 88-90

Field: Engineering
Application: REORGANIZATION, UTILIZATION

This article gives the results of a survey of 1,000 engineers on how to make engineers more efficient. Some of the suggestions were:

1. relax control over engineering personnel,

2. support training and educational programs,
3. get more semi-professional help,
4. grant more time for seminar attendance,
5. define management goals,
6. improve communications,
7. reward creativity and excellent performance,
8. revamp the salary system.

Supervisors emphasized:
1. increased training and job rotation,
2. allow facilities and time for pure creativity,
3. more and better training for supervisors,
4. more recognition in the way of prestige,
5. closer communication between management and engineers,
6. grant engineers greater voice in policy formation.

Others were:
1. more sub-professional help,
2. differentiated pay system,
3. work based on education,
4. define positions better,
5. more teamwork.

(324)

Machine Design
"How to Keep Engineers"
March 14, 1963, pp 140-143

Field: Engineering
Application: JOB SATISFACTION

Survey of 1,000 engineers shows these reasons for staying:
1. type of work,
2. salary,
3. location,
4. opportunity for advancement,
5. management,
6. fringe benefits,
7. professional environment,
8. freedom of approach,
9. job security,
10. responsibility,
11. recognition of efforts,
12. retirement plans.

(325)

Machine Design
The Peripatetic Professional
"Why Engineers Change Jobs"
January 31, 1963, pp 70-75

Field: Engineering
Application: JOB SATISFACTION

Survey of 1,000 engineers shows these reasons for job change:
1. low pay,
2. lack of opportunity for advancement,
3. location,
4. lack of challenge,
5. poor management,
6. company's lack of growth,
7. low recognition of engineers,
8. group layoff, fired,
9. poor working conditions,
10. relocation threat,
11. area of job interest deemphasized,
12. company bankruptcy.

(326)

Medical Tribune, Weekend Edition
"Psychotherapy: General Practitioner of the Future May Get a New Skill"
August 22-23, 1964, p 15

Field: Mental Health
Application: REORGANIZATION,
UTILIZATION

A general practitioner, because of his intimate, continuing relationship with his patient, is best placed to detect emotional crises. When referral is necessary, the GP will maintain contact with the patient and the consultant and soon resume full therapeutic responsibility.

(327)

The New England Journal of Medicine
"Female Doctors Afield"
Vol. 270, No. 18, April 30, 1964
p 960

Field: Medicine
Application: EDUCATION

Lancet (February 15, 1964) reported that of 229 women medical school graduates of the University of Birmingham from 1948 to 1958, the 60 who are single are in full time practice. Of the 169 married only 61 work full time and 48 practice part time. This is a loss of 35.8 percent of the women graduates. It was suggested that the medical schools reduce the intake of women due to this manpower loss. It was pointed out later in a letter (Dr. Johnston) that the survey was taken in the ten years which would be the most likely for child bearing and rearing.

It was found that many of the women would have taken part time positions but for the uncompromising attitude of the Ministry of Health to building a day nursery.

(328)

The New England Journal of Medicine
"Nursing Shortage"
Vol. 270, No. 15, April 9, 1964
pp 798-799

Field: Nursing
Application: FINANCING, UTILIZATION

Due to the nursing shortage, President Johnson has proposed some remedies in the form of scholarships, student loans, and grants to investigate more efficient utilization methods. For example, the evaluation of personnel with graded training and graded responsibility to take over some of the registered nurses' load could boost utilization. The retraining program of unemployed could be directed toward the nursing field. Army and Navy corpsmen supervised by nurses were able to provide good ward care and should be encouraged to enter the field after their term of duty.

(329)

The New England Journal of Medicine
"Student Training Program in USPHS"
Vol. 267, No. 16, October 18, 1962
pp 835-836

Field: Medicine
Application: ANCILLARY PERSONNEL, CAREER CHOICE, EDUCATION, RECRUITMENT

The U.S. Public Health Service has a special training program for students--the Commissioned Officer Student Training and Extern Program (COSTEP) for temporary active duty in the Commissioned Reserve. The assignments are available the year round, consist of not longer than 120 days duty, and are open to third-year medical students. The purpose of the program is to interest students in careers with the Service, to enable them to increase their knowledge while gainfully employed, to increase their understanding of the PHS, and to provide the Service with personnel. The duties consist of lab assignments, clinical clerkships, and field assignments.

(330)

Patterns of Disease
"The Nation's Health Manpower"
Parke-Davis, January 19, 1964

Field: Health
Application: ADMINISTRATION, ANCILLARY PERSONNEL, RECRUITMENT, TECHNOLOGY, UTILIZATION

1. Two ways in which health personnel are being relieved are by automation and auxiliary workers--up to 80 percent of nursing care is given by aides while doctors are giving registered nurses more responsibility. Some of the proposed uses for automation are:
   - a. interrogation machine to obtain patient's medical history,
   - b. system for hospital pharmacy to dispense single units of drugs,
   - c. analysis of repetitive physiologic measurements--electrocardiograms, etc,
   - d. quality control in clinical laboratory,
   - e. administrative work in hospitals--tabulation of patient charges, preparation of bills, check writing, monitoring bed occupancy,
   - f. translation of medical articles in foreign languages,
   - g. scheduling patient diagnostic studies and integration of daily work schedules.

2. When 582 high school boys were asked what profession they would like to enter if money were no problem 9 percent wanted to be physicians. When asked how many would probably enter the field only 5 percent would, as opposed to 18 percent for engineers.

(331)

Resident Physician
"V.A. Residency Training and Hospitals"
October 1956

Field: Medicine
Application: EDUCATION, FINANCING

The Veterans Administration offers a career residency program which permits selected residents to receive specialty training while being compensated at the same rate as a full-time staff physician. Included is a contractual obligation to render an additional two years of service after the completion of the three-year training program. Living quarters are very inexpensive. There is a rotating program through another teaching hospital for one-third or less of the training time since VA patients are usually all men. There is also an approved integrated program.

(332)

School and Society
"Guidance Programs and the Shortage of Engineers"
Vol. 90, December 1, 1962, p 416

Field: All Professional Fields
Application: COUNSELING, EDUCATION

More adequate guidance programs could increase the national talent pool by 500 percent. High school counseling should be at a professional level, and the liaison between high schools and colleges should be closer.

(333)

School and Society
"Job Satisfaction in Mental Health"
Vol. 86, No. 2133, May 24, 1958
pp 251-252

Field: Mental Health
Application: ADMINISTRATION, JOB SATISFACTION

The elements of job satisfaction in order of importance found in an American Psychiatric Association survey of 486 professionals in Ohio are:

1. intellectual stimulation,
2. security,
3. pay,
4. patient respect,
5. status and prestige,
6. type of patient,

7. regular hours.

"One implication of these findings is that the administrator who wishes to augment work satisfaction, and more specifically to raise morale and/or reduce turnover should not assume that salary increase by itself is an adequate solution. . . Ready and sincere responses to the needs and interests of the groups might add immeasurably to the effect of the raises."

(334)

Science
"Building for Unique High School Dedicated in the Bronx"
Vol. 130, No. 3383, October 30 1959, pp 1174-1176

Field: Science
Application: ANCILLARY PERSONNEL, EDUCATION

The Bronx High School of Science, New York, is a school for gifted students. The median IQ of 750 students was 140. A study made in 1952 showed that 80 percent of the graduates were in science or related fields. The school has unusual facilities: planetarium, photo labs, greenhouses, radio station, etc. During the summer the students are placed in research laboratories throughout New York.

(335)

Science
"Education"
Vol. 122, No. 3157, July 1, 1955
p 27

Field: Science
Application: ANCILLARY PERSONNEL, RECRUITMENT

Concern over the nation's short supply of scientific manpower led a University of California scientist to take a new step in solving the problem. He placed high school science students in research laboratories for the summer. Forty applications were received for ten jobs. Placements are being sought for all the applicants.

(336)

Science
"Education"
Vol. 122, December 1955, pp 1135-1136

Field: All Professional Fields
Application: RECRUITMENT

The University of Chicago organized a special tour showing the contributions of the University in overcoming scientific manpower shortages. Faculty members demonstrated current investigations to more than 400 science students, teachers, and principals from the high schools in the area.

(337)

Science
"European Manpower Mission"
Vol. 125, May 31, 1957, p 1077

Field: Science
Application: EDUCATION, RECRUITMENT

The Organization of European Economic Cooperation (OEEC) is sponsoring a survey which will ascertain steps to:

1. increase training and number of technicians,
2. attract more men and women into science,
3. create new systems of education more appropriate to current scientific needs in Europe.

The OEEC plans for action are:

1. to improve the data on demand and supply,
2. to increase the flow of senior

scientists among training or research institutes,

3. to promote inter-country exchanges of scientists.

(338)

Science
"National Manpower Council"
Vol. 117, No. 3049, June 5, 1953
pp 617-622

Field: All Professional Fields
Application: EDUCATION, UTILIZATION

Efforts made by the National Manpower Council to alleviate the man-power shortage have included:

1. strengthening of science institutions,
2. maintaining large number of college students,
3. expanding educational opportunities,
4. better utilization of present personnel.

Some findings are listed.

1. Two courses to prevent future shortages are:
   a. alteration of distribution of students,
   b. expanding of the college population.
2. For every high school graduate who ultimately earns a doctoral degree, there are 25 who have the intellectual ability to do so but do not.
3. Possible reserve groups are:
   a. high school graduates who do not enter college,
   b. those who enter but do not complete college,
   c. those who graduate but do no post-graduate work,
   d. those who achieve low test scores because of early schooling deficiencies.

The only quick remedy for manpower shortages lies in better utilization of available supply, and the employment of auxiliary personnel by physicians.

(339)

Science
"Preservation of Educational Standards During Teacher Shortage"
Vol. 129, No. 3365, June 26, 1959
p 1728

Field: Teaching
Application: ANCILLARY PERSONNEL, UTILIZATION

To improve the use of available resources for relieving the teacher shortage the following innovations have been studied:

1. more responsibility delegated to the student,
2. regular use of TV, films, teaching machines,
3. teaching students in large groups,
4. use of graduate and undergraduate teaching assistants,
5. avoidance of duplication of curricula.

(340)

Science
"Report on Education in the Age of Science"
Vol. 129, No. 3363, June 12, 1959
pp 1549-1560

Field: Science
Application: EDUCATION

A report entitled "Education for the Age of Science" was issued by the President's Science Advisory Committee. The panel's recommendations follow:

1. scientists and scholars should establish more contact with teachers at all levels to transmit new knowledge,
2. the curriculum needs revision,
3. revise texts; produce less expensive books,
4. develop an adequate supply of learning aids such as: films, tapes, TV material, and slides,
5. supply lab equipment,

6. improve economic status of teachers,
7. recognize talented students,
8. assist talented students in high school, if necessary, and in college.

(341)

Science
"Scientific Manpower in Government"
Vol. 129, No. 3364, June 19, 1959
p 1660

Field: Science
Application: RECRUITMENT

At a session with speakers from industry, government, and universities, the recruiter for the Federal Government emphasized the unique aspects of employment in government. According to the author, all agencies which seek to recruit scientific personnel should alert candidates to any special attractions which may be offered. In general, a cooperative effort to improve the public image of the scientist should be undertaken.

(342)

Science
"Women in the Class of 1957"
Vol. 130, No. 3379, October 2, 1959
p 853

Field: Science
Application: EDUCATION, MANPOWER RESOURCES

Of the nearly 88,000 women college graduates in June 1957 about half went into teaching. In the social, physical and biological sciences and in mathematics and engineering, where many excellent opportunities exist for college women, the numbers were disappointing. "Since first jobs were largely in fields related to undergraduate majors, it becomes obvious that women are still not aware of the expanding opportunities in the scientific professions."

(343)

Science News Letter
"Eight Ways to Insure Supply of Scientists"
Vol. 61, January 12, 1952, p 24

Field: Science
Application: UTILIZATION

Eight ways to insure the supply of scientists are:
1. determine how much and what kind of research is necessary,
2. employers must make the maximum conservation and use of scientists,
3. employers must plan more effectively the use of individuals,
4. divide the available scientists effectively between armed forces and civilian employers,
5. raise salaries,
6. use scientists of other nations,
7. encourage men and women of talent,
8. insure a continuous flow of talent to colleges.

(344)

Science Teacher
"On the Target! High School Science Teaching and Today's Science Related Manpower Shortage" National Science Teacher Association
Vol. 24, April 1957, pp 128a-128h

Field: Science
Application: EDUCATION, FINANCING, REORGANIZATION,

There exists a shortage of science teachers; science courses are often dull; courses need modernization. Proposals for mitigating these problems are:
1. more effective curriculum,

2. learning materials to supplement texts,
3. science fairs, exhibits, and conferences,
4. more scholarship awards for students and teachers,
5. improved guidance,
6. improved techniques of student identification,
7. increase in teachers' salaries,
8. more work-study conferences,
9. grants for on-the-job research.

(345)

Scientific American
"Manpower"
Vol. 194, January 1956, pp 44-45

Field: Science
Application: EDUCATION, FINANCING

The editorial suggests the following:
1. every scientist become a part-time high school teacher,
2. physics and chemistry be required in high school,
3. grant scholarships to high school teachers to do graduate study which would lead to a degree,
4. find summer employment for teachers, in the shortage fields.

(346)

Scientific Monthly
"Traveling High School Libraries"
Vol. 82, No. 1, January 1956
pp 51-54

Field: Science
Application: EDUCATION

The traveling library was started to:
1. stimulate interst in reading science books,
2. broaden the science background of high school students,
3. assist students with scientific interest in choosing a career,

The program is in effect mainly in smaller schools with a limited library.

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DISCUSSION OF CONCEPTUAL APPROACHES

Note to the Reader: As will become apparent in the ensuing discussion, the manpower problem is discussed without reference to time, even in defiance of the concept of time. This is done for semantic reasons. Although the discussion is placed entirely in the present tense, the authors are aware that nobody is planning to convert persons presently in one profession to another profession. The effect is the same, however, if a recruiter keeps a person who would have entered one profession out of that profession and leads him into another.

It is also true that the existence of concern over manpower situations implies that the concerned parties believe that the situation of the future can be predicted and manipulations made in order that the prediction will be invalidated. Thus the figures quoted in this article are true of the present, and it is assumed that they will be true of the future unless some manipulation, such as those described in the article, causes them to change.

The number of ideas which have come to light in the course of this study is immense; they cover a range of subjects from the financing of education to the utilization of technical personnel and academic disciplines within the behavioral and social sciences, from economics to psychology. The sources have also been heterogeneous with many ideas coming from the bibliographical references contained herein, the survey of opinions of psychiatrists, and from personal communications with persons active in the manpower field.

To present a complete summary of the opinions and judgments in but a few pages is nearly impossible; only a sketch can be presented. In order to cover these points as fully as possible a two-part format has been adopted for this summary. The first is a description of the form of some of the beliefs and observations according to the dynamic categories into which they fall. Following this is a description of the contents, also a categorization, but not in terms of their dynamics.

It follows from the nature of the professional manpower shortage that solutions which speak directly to the problem of number of personnel in a given professional field must lie in one or both of two categories of solutions: (a) proposals to alter the situation within the present manpower pool, or (b) proposals to alter the situation in a broader manpower pool. These are what we have chosen to call the "internal" and "external" approaches.

The shortage of professional manpower is a problem which can be viewed in an economic fashion, for it is a problem in the allocation of materials (in this case, human), and this is the realm of problems with which economics concerns itself.

The general type of problem which includes the professional manpower shortage problem is the situation in which there is some material and a desirable use for the material. The material may be seen as divided into two major categories: (a) that which is utilized,* and (b) that which is not utilized. In order for there to be a problem it must be true that some part of the utilized material is being utilized incorrectly. The problem itself is how most effectively to change the pattern of utilization so that the utilized material will be utilized properly.

The first approach to a solution of this type of problem is to deal directly with the faulty allocation of the utilized portion of the material. But it may be true that a simple readjustment of the allocation of the utilized portion is impossible in any final sense, because a change in any of the utilized portion involves a change in all of it.

This situation calls into play the second type of solution in which an equitable solution is achieved by calling into play the unutilized portion of the pool of material and designing a situation in which there can be a satisfactory equilibrium.

It is apparent that the relative efficacy of these two approaches is determined by two types of relationships; those between the segments of the utilized materials and those between the utilized and unutilized portions of the pool of material.

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* The word "utilization" is used in this discussion to mean utilization within the universe of discourse. In the case of professional manpower we shall use "unutilized" in reference to any person who has the potential to be in some profession but is in none.

Applying these considerations to the manpower situation it can be seen that the shortage of professional manpower is precisely such a situation as has been described. There exists a pool of persons who are, or potentially could be, in one or another of the professions. Those who are in the professions are allocated improperly, at least inasmuch as a number of professions (the mental health professions among them) appear to have a shortage of personnel. There is, in addition, a large group of potential professionals who are not in the professions, and are, hence, unutilized materials. The factors governing the relationships between numbers in the various professions consist primarily of the law of supply and demand, although there are those that argue that some of the professions are in a monopoly situation so that the ideal workings of the "invisible hand"* are only partially operant.

One of the factors which would govern the efficacy of the two approaches previously described is the balance between utilized persons and unutilized persons. Taking the extreme cases as illustrations, assume that there were no persons in the professions at all, a situation of zero percent utilization. Clearly, the philosophy of working within the utilized segment of the pool would be absurd. Similarly, the second philosophy, that of utilizing some of the presently unutilized personnel becomes absurd if there is already 100 percent utilization. As can be seen, the relative merits of the two approaches continue to be determined by the proportion of utilized personnel in the non-extreme cases, as well. Since the ratio of utilized potential professional persons to unutilized ones is presently about 50 percent this criterion does not dictate either an internal or an external approach.

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* The "invisible hand" is used here to mean the summation of the tacit desires of the population at large. Government expenditures, consumer expenditures, and the fashion in which they are allocated are all reflections of this collective, perhaps unconscious, decision on the part of the public.

No clearcut answer will emerge from the other criterion either, but it is interesting to consider it. If the situation were such that most professions had sufficient personnel, then any addition of personnel from the non-utilized portion would go heavily into the one or two fields which had insufficient personnel. On the other hand, if such were the situation reallocating persons from one profession to another would also cause minimal disruption in the balance of numbers between the professions.

Such is not the case, however. If the publications of the various fields are to be believed, then there is a shortage in many professional fields. This implies that a reallocation of those already professionals would only mean that the shortage in one field would be alleviated at extreme cost to another. Since, in a situation of general shortage the laws of supply and demand will have achieved some stable situation, then it seems likely that the second approach would not have the effect of changing the relative proportions among the professions until one or more of the professions had reached a level near adequate numbers of entrants. Thus, an increase in the number of professionals would mean that the increase would be distributed over all the professions as it is now. Therefore, for any single field to use the second approach would be a financial drain, since they would be contributing personnel to all the other fields as well. This seems to imply that if any person or organization should wish to use the second approach, it must be done on a cross-professional basis. This factor alone might make a pure application of the second approach unfeasible.

On the other hand, despite the contra-indications about the second approach, that of external change, the fact that many professions do have shortages seems to point toward the second approach because of its non-differentiated attitude toward the different professions.

Returning to a consideration of the polarity of approaches in manpower, whether to use internal or external change, it is possible to see a number of the different sorts of proposed solutions in contrast to one another.

Those who favor internal change are the persons who propose that the solution is to attract more persons into a particular field. Recruitment drives would be an example of this approach. Those favoring external change would advocate scholarship programs which would increase the number of students, or would advocate more "bricks and mortar" to the same purpose.

The same dichotomy of views is operant in a discussion of occupational choice. The persons who believe in the program of reapportionment behave as though occupational choice were a single act. When dealing with high school students, a person acting from this point of view might attempt to form a Future Physicians Club in order to attract high school students into medicine. A person operating with the goal of external change would consider occupational choice as a process rather than as an act. Thus, he would deal with high school students in the hope of helping them attain just one more step in the direction of professional status. This would be attempting to ensure that as large a number as possible continued to college.

We have shown that both these goals have a suitable function, and that their relative fruitfulness is determined by objective considerations. Before proceeding to discuss the interactions of these two viewpoints, it might be best to answer one possible objection.

An objector might point out that the universe of discourse has been arbitrarily limited in this discussion to the situation of professional manpower. Although this is true, it has no bearing on the present discussion.

There is, overall, in this country, a surplus of manpower. Evidence of this is the continuing unemployment rate of over 5 percent. This overall unemployment allows the professional manpower planner to limit his universe of discourse because, as far as he is concerned, the total manpower pool has no effect on his manpower pool, the professional manpower pool.

To return to our discussion of the two approaches, we have, on the one hand, an approach which dictates that the planner must concern himself with the whole educational process by attempting to ensure that (a) any person who has the intelligence and motivation will reach professional status, and (b) each student will have aid in taking each step toward professional status. On the other hand, there is the approach that one need only concern oneself with directing future professionals into the profession of interest, without concerning oneself with the professions at large.

These two positions probably do not exist in a pure form in anybody's proposals, for, since they are not mutually exclusive, a mixture of them is presented in any proposal. Two of the possible syntheses will be presented here.

Proponents of the external approach might criticize the internal approach by saying that it defies the laws which govern a free enterprise economy. Their argument might be as follows: The proportion of persons who enter a given profession is determined, in large part, by the relative attractiveness of the profession. The relative attractiveness of a profession is determined by the "invisible hand." Each member of society places some implicit value on the members of a given profession by holding them in a certain regard and by being willing to pay a certain amount for their services. The summation of these individual evaluations in all their different forms of expression provides the determinants of the relative attractiveness of each profession. Thus, it is the expressed social need for a profession's services which determines all those aspects of its attractiveness which are not a strict part of the professional work itself. In a manpower shortage, the persons who favor a change of the allocation of professionals perceive a higher degree of social need than does the society at large. If the planner manipulates the relative attractiveness of the profession (probably by manipulating the pay scale) he then sets up a situation in which society will change the system of rewards to members of the other professions so that the total structure of reward will come back in line with the perceived social need for services of various sorts. This is merely an application of the "invisible hand" to the manpower situation.

In the face of this criticism, the adherent to the approach of internal change might make two proposals. One would be to manipulate the perceived social need for services. A clear example of this is being done in the field of rocketry and space. By a large scale promotional campaign the United States federal government altered the perceived social need for the conquest of space to the point where it became a multi-billion dollar item of federal expenditures. Whether this was done deliberately or not is a matter of no concern. The effects were as though it had been done deliberately. Effective social need had been manipulated.

Another fashion in which the proponent of internal change might approach this matter would be to reason that a new balance of social desirability might be established if the duties performed by various professionals were altered and a new professional field were designed to do a different group of duties. By doing this, it might be argued that not only the structure of social need, but also the relative attractiveness of the profession would be altered. This proposal of the introduction of ancillary personnel rests on several calculated risks. One is that the system of social needs will be changed in a positive direction. Another is that the new ancillary group will take in a larger group of people from outside the profession of interest than from inside it.

A third proposal that a proponent of the view we are discussing might make is this. Since the social need for a particular profession is a synthesis of the social attitudes toward all the services it performs, might it not be possible to link some duties of high perceived social need with duties of low perceived social need, thus carrying the latter along with the former? It may be that this is what has happened in one of the mental health fields--psychiatry. The major duties of the private practitioner in psychiatry consist of activities which many have claimed could be performed by less highly trained persons. One is led to wonder how many fewer psychotherapists there would be if the medical specialty of psychiatry did not exist. Looking into the future, it might be possible to give some of the psychotherapists' duties to social scientists in the hope that this would increase the number of psychotherapists.

Another synthesis of the two positions follows from a criticism of the approach of external change. A critic might say that this approach neglects the fact that persons sometimes (perhaps often) fail to enter a given profession because they are misinformed either about the nature of the field or about their own capabilities. The defender of the approach of external change might then reply by proposing that there be persons whose sole function would be to deal with persons at every stage of entry into the professions, from kindergarten to college, who would disinterestedly propose to the student what the alternatives realistically facing him were, in terms of the individual's own capabilities, the social demand for a given profession, and other such factors. It is from some reasoning process such as this that vocational counseling came into existence.

There are several matters which have not been considered in this article, but which do have effects on the manpower situation. One of these is technological change. In a given profession it might happen that some technological change would occur which could have a number of effects. Two of the more obvious ones would be that the change might decrease the demand for personnel in a particular profession, or the change might change the duties of the profession. Either of these changes would have far reaching consequences in the structure we have described.

Another matter which has not been extensively considered here is the issue of the manner in which a professional's time should be utilized. The creation of ancillary personnel, previously mentioned, is one fashion in which the utilization of time can stem from our considerations.

To sum up: We have seen how two polar approaches to the alleviation of manpower shortages come into existence, how they might be justified, and some of their possible syntheses. Following is a list of the various ideas which have been proposed for alleviation of manpower shortages. It may help the reader to synthesize the list of ideas if he keeps this theoretical framework in mind.

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SUGGESTIONS CITED FREQUENTLY IN THE LITERATURE

Utilization

1. Increase alternative services.
2. Send patients with long-term illnesses to nursing homes.
3. Replace obsolete beds in state hospitals with beds in community centers.
4. Extend creative capacity of mature scientists by refresher courses in other fields and by apprenticeships.
5. Conduct work-studies to see how time is used.
6. Utilize home-helpers and paid housecleaners.
7. Make arrangements with other institutions to supply the training to correct lack of people and facilities.
8. Encourage women over forty to return to the teaching and nursing professions.
9. Have college student volunteers work in direct contact with disturbed children.
10. Train older women to conduct psychotherapy.
11. Utilize retired persons.
12. Give special classes to older retiring persons.
13. Identify necessary changes.
14. Retain older workers on part-time basis.
15. Utilize non-professional aides.
16. Resources include:
    a. unemployed trained persons,
    b. optimal utilization of present employees,
    c. staff-sharing with other hospitals,
    d. adult education programs.
17. Teach behavioral science concepts to lawyers so that they can practice social or preventive psychiatry.
18. Utilize ancillary personnel, volunteers, and technicians.
19. Employ public health nurses to support psychiatric nurses.
20. Transmit medical news information, and literary digests through a private medical radio station.
21. Give older teachers with slight deficiencies smaller classes, rather than dismissing them.
22. Utilize an admitting suite to centralize admissions, etc.
23. Retain employees after retirement.
24. Utilize clergy, teachers, and lawyers as preventive psychiatrists.
25. Make sure supplies are easily accessible, up to date, centrally located, and centrally purchased.
26. Simplify and standardize records and stationery whenever possible.
27. Realize that patients can help in an emergency and can do more for themselves than most professionals recognize.

28. Types of machines being used or worked on include:
    a. an interrogation machine to obtain patient's medical history,
    b. a system for pharmacies to dispense single units of drugs,
    c. analyzers of repetitive physiological measurements--electrocardiograms, etc.,
    d. quality controllers for clinical laboratories,
    e. machines for administrative work in hospitals--tabulation of patient charges, preparation of bills, etc.,
    f. translating machines for medical articles in foreign languages,
    g. an integration machine for daily work schedules.

29. Correct distribution imbalance and lack of mobility.

30. General practitioners can organize classes in times of stress, deal with parents during child's illness, and prepare child adequately for surgery.

31. Utilize all personnel at the highest level of their skill.

32. Employ new methods to free trained personnel, including:
    a. linen cart exchange--two large linen carts are restocked periodically by non-professional personnel,
    b. messenger service,
    c. roust aide--all interrupting duties are assigned to one aide,
    d. nurses' secretarial duties.

33. Utilize tape recorders for reports on patients.

34. Utilize a traveling team of psychiatrists to set up training programs.

35. Identify future changes in the profession at an early date.

36. Encourage Army and Navy corpsmen who served in hospitals during their terms of duty under supervision to enter the field after their terms of duty.

37. Untapped resources include:
    a. high school graduates who do not enter college,
    b. those who enter college but do not finish,
    c. those who finish college but do no post-graduate work,
    d. those who achieve low test scores because of early schooling deficiencies.

38. Extend creative capacity of mature scientists. Rather than have the older scientist accept an administrative position, offer him a refresher course and apprenticeship.

39. Improve working conditions.

40. Set up staff-sharing programs with other institutions.

41. Increase alternate services.

Education

1. Give schools information about occupational trends, student aspirations, etc., for effective counseling.
2. Introduce accelerated classes for gifted youth.
3. Insure better education for Negroes.
4. Identify talented individuals as early as possible.
5. Introduce courses in psychology in high school or junior high.
6. Have students spend a week's residence in an institution as part of clerkship.
7. Introduce more exploratory courses in junior high and high school.
8. Strengthen universities' experience with research.
9. Increase student experience through clinical material, field trips, and laboratory work.
10. Introduce summer institutes.
11. Establish honorary awards and recognition for outstanding high school seniors.
12. Employ new methods to increase teacher effectiveness, such as closed circuit TV, tapes, films, and slides.
13. Institute reading clinics for capable but underdeveloped students.
14. Hire more teachers.
15. Buy more laboratory equipment.
16. Do not underestimate students' abilities.
17. Grade papers more effectively.
18. Introduce a summer program for high school students for college credit.
19. Institute a program so that the capable student can earn a BA in three years and an MA in four.
20. Create a new profession--Doctorate of Medical Psychology.
21. Reestablish nurses' training schools in psychiatric hospitals.
22. Offer advanced programs for attendants, aides, and technicians.
23. Shorten Ph.D. program by:
    a. eliminating dissertation,
    b. reducing course work,
    c. frequent contact between student and professor.
24. Create a program of psychiatry for non-psychiatric physicians.
25. Increase length of school year.
26. Reduce duplications in course offerings through larger lectures, smaller lectures, etc.
27. Offer honors programs.
28. Introduce special college programs for selected students, including flexibility in fulfilling requirements, use of library stacks, etc. Under this program, many students graduate after four to six semesters.
29. Admit high school graduates to college on recommendation from teachers, counselors, and principals.

30. Utilizing high school teachers as counselors will deplete the already small supply of teachers.

31. Hire industrial scientists to teach part-time.

32. Send books, tests, tapes, etc. to rural areas.

33. Use government laboratories as teaching centers.

34. Recognize need for better education.

35. Establish better teacher-student relationship.

36. Introduce science courses earlier in school career.

37. Insure early recognition of talent.

38. Avoid duplication in college of high school course work.

39. Give graded tests to high school students in regular courses. Those who do outstandingly well may receive some college credit.

40. Establish scientists as part-time high school teachers.

41. Educate college-trained mothers for teaching positions.

42. Get high-school students jobs in laboratories for the summer.

43. Coordinate and strengthen high school education.

44. Establish awards for high school students and teachers.

45. Institute advanced programs for attendants and aides.

46. Select students for specialized rather than overall ability.

Recruitment

1. Establish science fairs, talent searches, and scholarships.

2. Utilize special brochures, telephone calls, TV, radio panels, and lectures.

3. Take advantage of the fact that career plans are often decided by age twelve.

4. Promote conferences with science teachers and counselors.

5. Sponsor visits to engineering firms (laboratories, hospitals, etc.)

6. Help high schools and lower schools to benefit from extra-curricular applied science laboratories.

7. Provide demonstrations and kits for recruitment.

8. Sponsor foreign students.

9. Utilize older persons as counselors, on recruitment committees, and in career days.

10. Utilize counseling services:
    a. to present the student with accurate information,
    b. for individual analysis of aptitudes and interests,
    c. to give attention to problems affecting health of students,

   d. for inservice training in guidance,
   e. for guidance of drop-outs.

11. Establish science camps.

12. Give high school research apprenticeships during summers.

13. Utilize library tour and coke party to encourage high school students.

14. Contact PTA for recruitment ideas and aid.

15. Advertise need in college paper.

16. Develop trainee programs.

17. Utilize career day booths for distributing literature and getting mailing list.

18. Help Future Scientists of America to give career information, etc.

19. Help parents encourage their children.

20. Encourage professors by:
    a. assuring academic freedom,
    b. providing adequate facilities,
    c. expanding the system of leaves and pay,
    d. using junior assistants where possible,
    e. offering more fringe benefits,
    f. raising salaries.

21. Nurses need:
    a. more adequate student guidance programs,
    b. more aides to prevent overwork.

22. Tools for recruitment include pamphlets, posters, bulletin board displays, news ads, literature, stressing male nurses and Negroes.

23. Form special workshops for the gifted student.

24. Establish liaison between college, high school, and junior high.

25. Publicize scholarship programs more effectively.

26. Enlist interest and aid of community leaders in business, industry, labor, government, school administration, PTA, and service organizations.

27. Increase fringe benefits for hospital employees.

28. Provide current career information through:
    a. public health nurses,
    b. high school counselors,
    c. school superintendents.

29. Arrange conferences with parents.

30. Make sure that all information is correct.

31. Offer scholarships for high school teachers.

32. Find summer employment for teachers.

33. Provide summer employment in each discipline at several academic levels (on-going research).

34. Establish programs for professional staff to recruit others.

35. Utilize posters on streetcars and establish an office to which inquiries can be sent.

36. Employ a speakers' bureau.

37. Utilize postal meter advertising.

38. Use a commemorative stamp.

39. Establish traveling libraries.

40. Change public image of librarians.

41. Establish Future Physicians Clubs.

42. Utilize films and experiments, and career information in library.

43. Pursuade local business firms to support recruitment.

Finance

1. Give scholarships, funds for educational support.

2. Fund raising campaigns should include hard facts, volunteers working toward stated goals, personal solicitation, good leadership, and direct friendly conversational appeals.

3. Establish a system of long term loans given by the parents of potential students to the university. When the student arrives, part of his education is already paid for.

4. Give professional advice to the government.

5. Raise teachers' salaries.

6. Establish earn-while-you-learn programs.

7. Secure cooperation of industry.

APPENDICES

APPENDIX I

INDIVIDUALS AND ORGANIZATIONS KNOWLEDGEABLE ABOUT MANPOWER

This alphabetical listing of individuals and organizations, derived from the readings and correspondence of the first year of the study, has been compiled as a reference for those interested in manpower problems and research.

Asterisks denote those persons or organizations whose particular focus is mental health manpower.

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APPENDIX II

BIBLIOGRAPHY OF PERIPHERAL SOURCES

The following sources are included in this appendix because, although they deal with important matters in mental health manpower, they are not directly applicable. Some of them deal with the mental field in general. Others deal with the determinants of occupational choice. These latter are marked with an asterisk for ease of identification.

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APPENDIX III

CURRENT RESEARCH

Following is a partial listing of work currently being done in the field of mental health manpower. Wherever possible, the source of our information has been cited so that interested persons may contact the researchers themselves.

The American Institute of Physics, 355 East 45th Street, New York, New York, has been carrying on for the past few years a project on Manpower Studies in Physics.

The American Medical Association (Board of Trustees), 535 North Dearborn Street, Chicago, Illinois, has proposed to set up a manpower study within the AMA with Mental Health Manpower as one component. The AMA is also involved in other activities related to the mental health field.

The American Physical Therapy Association, 1790 Broadway, New York 19, New York, is conducting a National Manpower Survey of Physical Therapists.

The American Psychiatric Association, 1700 18th Street, N.W., Washington, D.C., is conducting a rather extensive manpower study.

The Conference Board on Mathematical Sciences, 1346 Connecticut Avenue, Washington, D.C., has performed a study of recent Ph.D. production which should be ready by the end of 1964.

Fred Davis, Ph.D., University of California, San Francisco Medical Center, San Francisco 22, California, is studying five classes of student nurses at the West Coast University school of nursing. Methods employed: Observational field work, panel interviews, and questionnaires; Nursing Careers Project, School of Nursing.

Harold W. Demone, Jr., State Department of Mental Health, Massachusetts, is developing, through task forces, advisory councils and staff members, a comprehensive plan involving community leaders and a planning model to be integrated into the Massachusetts State Department of Mental Health.

The Department of School Administration of the Teachers College of the University of Nebraska, Lincoln, Nebraska, has been attempting some experimental work in recruiting able young men and women for educational leadership roles in public education.

Paul Feldstein, Ph.D., American Hospital Association, Chicago, Illinois. This is an element of ongoing studies to explore and stimulate research, studies and demonstrations to improve hospital personnel action programs.

The Florida Mental Health Planning Program, Florida, has developed a Task Force which is in the process of gathering information in the preparation of a report which can be used in the development of Florida's Community Mental Health Plan.

Dr. Stuart E. Golann, University of Maryland, College Park, Maryland, is in the process of compiling a directory of mental health training programs with particular emphasis on the training and utilization of new types of "mental health personnel" and "non-traditional" training methods.

William E. Henry, Ph.D., Committee on Human Development, University of Chicago, Chicago, Illinois, is involved in a study of mental health professions. It is focused upon career lines, interactive roles, and personality and cognitive distinctions.

The Johns Hopkins University School of Public Health and Hygiene, 615 North Wolfe Street, Baltimore, Maryland, is developing a method for studying health manpower problems and is specifically working in Taiwan, Turkey, Peru, and Nigeria.

Elynn G. Merritt, N.J. State Department of Institutions and Agencies, N.J., is researching and reviewing the field of mental retardation to develop a curriculum guide to be used in an inservice training course for attendants in institutions for the mentally retarded.

Robert Moulton, University of California at Berkeley, is performing research on various aspects of mobility which have application to manpower shortages.

The Training Branch, NIMH, Bethesda, Maryland, is engaged almost entirely in attempting to relieve the manpower shortage in mental health by conducting a training program which encompasses many disciplines utilized in the area of mental health. Some of their current research areas include:

1. a survey of professional personnel employed in mental health establishments,
2. a survey of professional personnel employed in general hospitals,
3. a survey of psychiatric aides (One publication has been issued entitled "Highlights from a Survey of Psychiatric Aides," NIMH),
4. a supply-demand study of sociologists and anthropologists,
5. a survey of psychiatrists, to be performed by the American Psychiatric Association under contract with NIMH. The NIMH also publishes regularly the "Mental Health Manpower Current Statistical and Activities Report."

National Manpower Advisory Committee, Washington, D.C., is performing research on the effects of technological change on women and on the special employment problems faced by women.

The National Opinion Research Center, 5720 South Woodlawn Avenue, Chicago 37, Illinois, is engaged in four manpower studies. These are:

1. a longitudinal study of the June, 1961 college graduates,
2. a sample of graduate students in the traditional arts and sciences plus certain specialties. The focus of the study is primarily on finances and progress through graduate study,
3. a study of the postgraduate career plans and aspirations of the June, 1964 graduating class,
4. a study of the backgrounds and educational experiences of those who listed themselves in critical careers and occupations in the 1960 census obtained through a re-survey of these persons in 1962.

The Oregon Research Institute, Eugene, Oregon, is conducting a survey of Mental Health Personnel in the State of Oregon.

James F. Rogers, Office of Education of the Department of HEW, is conducting a study of professional staff of institutions of higher education in which he seeks to determine institutional needs for professional staff through the remainder of the present decade.

W. Donald Ross, Departments of Psychiatry and Preventive Medicine, and Industrial Health, University of Cincinati, College of Medicine, Ohio. Data concerning mental health is being collected on over 300 industrial employees divided in groups.

Myron R. Sharaf, Ph.D., University of Michigan, Ann Arbor, Michigan, is doing a study on various samples including: inpatients and outpatients in psychiatric facilities; psychiatric residents; students in college, nursing school, and medical schools.

William P. Shepard, M.D., The Association of Schools of Public Health, University of North Carolina, Chapel Hill, North Carolina, is gathering data through mail questionnaires from approximately 10,000 persons from a list of public health association members. Comparison data obtained from some 50,000 cases of scientific and professional persons studied by National Science Foundation.

The State Department of Mental Health in Michigan, Lansing, Michigan, is conducting several studies of the utilization of non-professional personnel.

The Subcommittee on Manpower of the New York City Regional Mental Health Planning Committee is working on evaluating mental health resources and needs for the city of New York.

The Task Force on Social Work Education and Manpower is currently recruiting its staff and during the next year hopes to conduct a careful study of current programs in this field and the need for new or modifying legislation which can be directed toward a more adequate approach to meeting the problems of manpower supply.

Mrs. Gladys J. Wilhelm, Los Angeles County Health Department, Los Angeles, California found that 109 public health nurses out of 300 indicated interest in improving their research competencies. Courses are presented in biostatistics and in research methodology. During third year participants will engage in research projects.

Dean H. Wilson, University of Michigan, Ann Arbor, Michigan, is conducting ongoing studies to explore and stimulate research, studies and demonstrations to improve hospital personnel action programs.

The Kentucky Mental Health Manpower Commission is conducting a study on nurses who are currently registered as inactive to obtain information about why they are inactive and to determine what percentage of them may be able to return to full- or part-time employment. The Commission is also formulating plans for a survey and study of social work retention problems in the Kentucky State Mental Health Program.

The Florence Heller School of Social Work at Brandeis University, Waltham, Massachusetts, is currently studying career patterns among almost 1,500 social workers who graduated from accredited schools of social work in 1957.

APPENDIX IV

ANALYSIS OF QUESTIONNAIRE TO CALIFORNIA PSYCHIATRISTS

In early 1964 a questionnaire was sent to a sample of 740 California psychiatrists. The purpose of the questionnaire was to discover areas wherein persons active in psychiatry thought solutions to the mental health manpower shortage might lie. In part, this constituted an attempt to get an idea of the feelings, beliefs, and opinions of the psychiatrists, in order that those who propose steps for relieving the manpower shortage can gain a perspective of what types of ideas would receive support from persons already in the field. It was also hoped that some of the replies might stimulate or present new approaches to solving the manpower problem. Both of these objectives were at least partially fulfilled.

The following special characteristics of the data should be borne in mind by the reader.

1. These data represent responses to two questions; combining was done because respondents generally answered as though the two questions were only one. The two questions were:

   "Where do you think the causes of the current mental health manpower shortage lie?"

   and

   "Without considering the practical difficulties, how would you propose to alleviate current mental health manpower shortages?"

2. The questions were open-end ones. It would have been possible to construct a closed-end questionnaire, but it appeared that, despite the increased difficulties in coding, more information could be gained from the open-end questions.

Because of this characteristic of the questions, the coding was based entirely on the nature of the responses. The difficulty in presenting the data may be illustrated by an example: an assertion such as, "32 percent of the psychiatrists felt X" has a different meaning in this questionnaire than it would in a questionnaire wherein respondents were asked closed-end questions. In the latter type of questionnaire there would be a finite number of mutually exclusive categories; this is not true of open-end questionnaires. In a closed-end questionnaire the statement, "32 percent felt X" implies that "68 percent did not feel X;" this second measure is not implied in an open-end query.

Two descriptive statistical measures have been used: the rank order of a category, and the number of responses per one hundred psychiatrists.

The sample was analyzed according to type of practice in three different ways: (1) nature of professional medical activities, (2) type of professional practice, and (3) source of professional income. Some sub-categories were excluded when numbers of respondents were insufficient. The category with the smallest number of respondents was "Teaching," with 24 respondents, followed by "Preventive Medicine," with 36 respondents. All other categories had relatively large numbers of respondents, with the range extending to "Direct Care of Patients--Not in Private Practice," with 234 respondents.

Three hundred and eighty questionnaires were coded for replies to these two questions. The remainder of the data gathered from responses to other questions are now being analyzed. Whether respondents were influenced in their answers to these two questions by the more directive questions which followed has not been ascertained.

It should be noted that responses shown in Tables 1 through 5 are not mutually exclusive, since most respondents noted more than one suggestion as to causes and/or proposed solutions. Hence, the percents do not total 100.0 percent when added vertically, but rather, when totalled would indicate average numbers of suggestions or total criticisms from respondents within the group.

Overall, as shall be seen in the course of the analysis of the data, there was a slight difference in emphasis between what may generally be categorized as psychiatrists in private practice versus those not in private practice. Generally, the psychiatrists' remarks can be divided into a few major categories. One was "general comments," in which the respondents either questioned whether or not there was a shortage, stated that the problem would solve itself, neglected to answer, or stated that there is no solution.

Responses per 100 Psychiatrists - General Comments

TABLE 1

	Direct Care of Patients - Private Practice	Direct Care of Patients - Not in Private Practice	Teaching	Fee for Service Only, Individual Practice	Fee for Service and Part Time Salary, Individual Practice	Full Time Salary, But Some Fee For Service - Individual Practice	Full Time Salary Only	Full Time Specialty Practice	Resident or Fellow	Other Full Time Staff in Hospital Service	Full Time Medical School Faculty	Preventive Medicine	All Psychiatrists
There is no shortage	3.06	1.28	2.22	5.00	0.00	0.00	1.79	2.94	2.33	0.79	2.78	0.00	1.84
There is no solution	1.02	0.00	2.22	0.00	3.70	1.85	0.00	0.98	0.00	0.00	2.78	0.00	0.53
The problem will solve itself	1.02	0.85	2.22	0.00	3.70	1.85	0.90	0.98	2.33	0.00	2.78	0.00	1.05
No answer	3.06	5.98	4.44	5.00	0.00	1.85	6.73	2.94	5.82	5.55	5.56	8.33	5.00
Questions whether shortage exists, but does not contradict its existence	4.08	1.71	4.44	6.67	0.00	1.85	2.24	4.90	1.16	1.59	2.78	4.17	2.63
Agrees that shortage exists - does not specify or suggest solution	4.08	6.41	8.89	5.00	3.70	3.70	6.73	3.92	5.82	5.55	5.56	8.33	6.05
The shortage is only in institutions	11.22	5.56	4.44	8.34	18.52	7.41	4.93	10.78	4.65	7.14	11.11	8.33	6.84
Shortage exists not at all levels, but at the professional levels only	9.18	8.55	2.22	6.67	14.82	7.41	7.17	8.82	5.82	10.32	2.78	4.17	7.89
No shortages in core groups among mental health workers	4.08	1.28	4.44	1.67	7.41	5.56	8.97	3.92	1.16	1.59	2.78	0.00	2.37

TABLE 1: GENERAL COMMENTS

The number of respondents in the category "no answer" was quite low. Table 1 shows that only 19 out of the 380, or 5 percent, provided no answer. Another category of response is composed of statements about the shortage itself. These included affirmations of the questionnaire reference to a shortage and comments on the nature of the shortage, such as, "there is a shortage only in institutions," or, "the shortage is only in the non-professional groups." Table 1 also compares categories of psychiatrists according to their frequency of response in this manner.

As may be seen in the table, there are some variations among the different groups in the response that there is no shortage. The range is from zero percent to 5 percent, with the average for the whole group being 1.84 percent. Since the 5 percent response was from those psychiatrists in private practice on a fee-for-service basis, it will be interesting to see how this group responded in other categories.

The next response in which fee-for-service psychiatrists are appreciably higher than the total group is that response questioning whether a shortage exists (although they do not definitely negate the idea that there is one). More fee-for-service individuals are also of the opinion that no shortage exists in the four core groups. All these differences might lead one to suspect that persons in fee-for-service, individual practice, do not have the number of patients that those in institutional work have. It is interesting to note that none of the psychiatrists who derive a portion of their income from salaried practice stated an opinion that no shortage exists.

Judging from the response rates indicated in the category "no solution," it is clear that most groups of psychiatrists feel that there are solutions, or, at least, do not feel sufficiently pessimistic to state the opinion that none exists. In the category "the problem will solve itself," the range is quite small, and no sub-group differs significantly from the group as a whole.

Over 8 percent of the persons in preventive aspects of psychiatry did not respond to either of these two questions. This might be attributed to the fact that they are not directly involved in the day-to-day manpower problem that other psychiatrists may encounter, although there are a number of persons who feel that the solution lies in preventive psychiatry itself.

In the analysis of the category "the shortage is only in institutions," it can be noted that there are a number of variations from the group as a whole. Over 11 percent of those in private practice - direct patient care are of this opinion. Nearly 18.5 percent of those whose major source of income is fee-for-service, but who receive some income from salaried work, agree. Nearly 11 percent of those in full-time specialty practice and over 11 percent of those who are full-time medical school faculty members feel that the shortage is only in institutions. In contrast, only 7.4 percent of those who are full-time hospital staff feel this to be the case. A possible explanation is that only those persons whose work is not confined to institutional practice would be aware that the shortage is not universal (if indeed it is not).

In the next category, "shortage on professional level only," the outstanding difference from the group as a whole is shown by those who derive most, but not all, of their income from fee-for-service. They also form the group which feels most strongly that the shortage is not in the professional fields. The data would lead one to believe that this is a heterogeneous group, but that its members are of this opinion more often than are other psychiatrists. The psychiatrists in this group feel, overall, that the problem is one of distribution rather than of shortage.

Responses per 100 Psychiatrists -
Training and Education

TABLE 2

	Direct Care of Patients - Private Practice	Direct Care of Patients - Not in Private Practice	Teaching	Fee for Service Only, Individual Practice	Fee for Service and Part Time Salary, Individual Practice	Full Time Salary, But Some Fee For Service - Individual Practice	Full Time Slary Only	Full Time Specialty Practice	Resident or Fellow	Other Full Time Staff in Hospital Service	Full Time Medical School Faculty	Preventive Medicine	All Psychiatrists
There are inadequate training programs for mental health workers, no other specification	12.24	7.26	17.78	15.00	7.41	11.11	8.52	11.76	3.49	7.94	22.22	33.33	9.74
Training programs take too long and are too expensive	1.02	2.99	0.00	1.67	0.00	1.85	2.69	0.98	3.49	3.17	0.00	0.00	2.10
The training period is too long	10.20	11.11	4.44	8.34	18.52	5.56	11.21	9.80	13.96	8.73	2.78	12.50	10.00
Training is too expensive	0.00	0.85	0.00	0.00	0.00	0.00	0.45	0.00	1.16	0.00	0.00	0.00	0.26
The shortage is attributable to a poor educational system (not including medical school)	5.10	8.12	6.67	8.34	0.00	7.41	8.07	4.90	10.47	7.14	8.33	4.17	7.10
Too many restrictions on those who could be trained for mental health fields	4.08	2.99	4.44	5.00	0.00	0.00	4.04	3.92	2.33	3.97	2.78	0.00	3.42
Psychiatry instructors in Medical Schools do not do enough to attract potential psychiatrists	6.12	4.27	11.11	6.67	7.41	11.11	3.14	5.88	3.49	13.97	13.89	8.33	5.53
Departments of Psychiatry in Medical Schools could get more people into Psychiatry	7.14	7.26	11.11	6.67	7.41	20.37	5.83	6.86	2.33	11.11	13.89	12.50	8.16
There should be early exposure to psychiatry in medical schools	1.02	3.42	4.44	3.33	0.00	3.70	4.93	0.98	1.16	3.97	2.78	8.33	2.89
There are inadequate training programs for ancillary personnel	13.26	7.69	8.89	8.34	18.52	9.26	7.62	12.74	6.98	7.94	8.33	8.33	9.21
There should be increases in programs to provide financial aid to trainees	10.50	10.26	8.89	8.34	7.41	20.37	7.62	9.80	10.47	10.32	11.11	8.33	10.00
Medical students and graduates indicate a fear or anxiety of entering mental health fields	6.12	1.28	0.00	10.00	0.00	1.85	0.90	5.88	0.00	1.59	0.00	4.17	2.37
There are inadequate training facilities (professional)	2.04	7.26	11.11	3.33	0.00	7.41	7.62	1.96	8.14	7.14	13.89	4.17	6.32

TABLE 2: TRAINING AND EDUCATION

The next major category is composed of those responses which suggest that the reasons for or the solutions to the manpower shortage lie in the education and training of mental health personnel. Looking at all groups in this table, it can be observed that responses were more frequently in this general category than in the previous one. A large number of respondents expressed dissatisfaction by stating that the training or educational programs were inadequate without making further comment. Three of the groups of psychiatrists were above average for the group as a whole on rate of responses in this category. The three groups were: those whose professional activity was teaching; full-time medical school faculty; and those engaged in the practice of preventive psychiatry. This probably implies that only those who are connected with teaching are fully aware of its inadequacies. It is interesting in this connection to note that those who are apparently most content with the training and education of psychiatrists are the residents and fellows, who may have a less adequate perspective than any of the other groups, since they are still in the training process.

The number of persons who express discontent with both the length and the expense of training is low. Among the sub-groups, the range is from none to 5 percent of respondents, with an average of 2.1 percent. When those who mention only the length of training are considered, the number increases considerably. The average here is 10 percent, with a high of 18.5 percent and a low of 2.8 percent. Only one group is significantly higher than the average: those whose source of professional income is fee-for-service and part-time salary, in individual practice. As the responses are reviewed, it will be seen that several times this group, inexplicably, exceeds the average on individual issues.

The two groups which scored lowest on "length of training" were the medical school faculty and the teachers. Teachers probably scored a little higher because they included all the faculty members and persons such as staff physicians in training institutions. Very few of the psychiatrists seemed to think that expense of training was an important variable. A relatively large number ventured the opinion that the educational system (not including medical school) was at fault. It is interesting to note that those who were most emphatic about this were the residents and fellows, those who are closest in time to the educational system. The psychiatrists in fee-for-service and part-time salary again differed significantly, but this time they were below the average of the entire group.

There were a few who proposed that restrictions placed on those who could be trained (such as liberal arts students, women, and minority groups) accounted for the shortages. The average was only 3.4 percent and there were no significant variations.

Although the number of persons who felt that teachers of psychiatry were at fault or might more effectively recruit medical students for psychiatry was not particularly large, several groups noted such criticisms with considerably greater frequency than did the average respondent. Among these groups were the following: teachers, psychiatrists who work on a full-time salary basis but have some income from fee-for-service in individual practice, full-time staff in hospitals, full-time medical school faculty, and

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psychiatrists in preventive medicine. It is interesting that the teachers of psychiatry were generally more critical of themselves than were others.

A large number of respondents criticized departments of psychiatry. The highest response rate group was composed of those in individual practice with full-time salary and some fee-for-service. The group least critical of psychiatry departments was that composed of residents and fellows who, it might again be noted, may lack perspective on the problem. Only a few persons suggested earlier exposure in medical school. (The highest number were the teachers.)

The group with the highest relative frequency in noting proposals concerned with the training of ancillary personnel was again that group whose primary source of income is from fee-for-service but also hold salaried positions.

Many psychiatrists felt that financial aid programs would help alleviate the problem. The only group which differed significantly from the average for the entire sample was the full-time salary with some fee-for-service group; the relative rate among this group of respondents was twice as high as for the total group.

A few respondents suggested that fear and anxiety concerning the profession on the part of potential mental health professional personnel could be counted as a large factor. Another few felt that inadequate training facilities constituted a problem; teachers and medical school faculty members indicated this problem considerably more often than did other groups.

Responses per 100 Psychiatrists - Utilization

TABLE 3

	Direct Care of Patients - Private Practice	Direct Care of Patients - Not in Private Practice	Teaching	Fee for Service Only, Individual Practice	Fee for Service and Part Time Salary, Individual Practice	Full Time Salary, But Some Fee For Service - Individual Practice	Full Time Salary Only	Full Time Specialty Practice	Resident or Fellow	Other Full Time Staff in Hospital Service	Full Time Medical School Faculty	Preventive Medicine	All Psychiatrists
Reorganization of services and redistribution of personnel or facilities would lead to improved utilization	6.12	10.26	13.33	3.33	7.41	12.96	9.42	6.86	6.98	14.28	13.89	0.00	9.47
Suggests improving utilization of existing personnel	9.18	13.25	15.56	8.34	14.82	14.82	13.45	9.80	11.63	13.49	16.67	16.67	12.37
Distribution of existing personnel is one of the causes of present shortage	8.16	6.84	11.11	8.34	7.41	12.96	5.83	7.84	4.65	10.32	13.89	0.00	7.89
Suggests better delineation of roles and responsiblities	5.10	10.26	11.11	6.67	0.00	11.11	11.21	4.90	5.82	13.49	13.89	8.33	8.95
Suggests more efficient usage of ancillary personnel	8.16	14.96	17.78	10.00	7.41	14.82	15.69	8.82	13.96	17.46	16.67	4.17	13.42
Suggests short term, limited goal treatment course for patients	5.10	8.55	6.67	5.00	0.00	7.41	8.52	5.88	8.14	8.73	2.78	8.33	7.37
Suggests more cooperation between psychiatry and other associated fields	18.37	10.68	20.00	16.67	29.63	14.82	28.25	17.64	8.14	13.49	19.45	4.17	13.69
More usage of group (incl. family) rather than individual therapy would utilize personnel better	6.12	9.40	8.89	8.34	0.00	12.96	8.97	5.88	6.98	11.11	8.33	12.50	8.68
More preventive treatment would utilize present personnel better	8.16	9.40	13.33	8.34	7.41	11.11	11.21	6.86	10.47	8.73	13.89	12.50	9.47
Suggests more use of drugs	2.04	4.27	2.22	1.67	3.70	1.58	4.93	1.96	3.49	5.56	2.78	0.00	3.47
Suggests walk-in clinics for emergencies	6.12	6.41	8.89	8.34	0.00	1.58	8.52	5.88	6.98	1.59	5.56	4.17	6.84
Increased emphasis on community services would utilize personnel better	17.35	17.52	35.56	13.34	18.52	24.08	19.28	18.63	12.79	20.63	36.11	12.50	19.47
Suggests use of part-time personnel in institutions	2.04	4.70	4.44	1.67	0.00	5.56	4.93	1.96	6.98	3.97	5.56	0.00	3.95
More utilization of non-psychiatric physicians would relieve the pressure on psychiatrists	3.06	11.96	6.67	3.33	3.70	3.70	8.52	2.94	6.98	8.73	8.33	4.17	6.32
More government support of mental health	8.16	11.96	4.44	8.34	11.11	5.56	12.55	7.84	12.79	12.70	5.56	4.17	10.00

TABLE 3: UTILIZATION

The next major category of response is those answers which may be classified as complaints or suggestions about utilization of existing mental health personnel and facilities.

Table 3 includes those responses which fall into the category of "Utilization." The overall response rates in this category are similar to those in "Education and Training."

Nearly 10 percent of the respondents suggested a reorganization of existing personnel or a redistribution of personnel and facilities without offering any more specific suggestions. Those sub-groups with response rates higher than those of the total group were full-time hospital staff members, those engaged in teaching, and the full-time medical school faculty. This would appear to indicate that those most directly involved with institutions indicate a greater awareness of and concern with the problems of reorganization and redistribution. It would appear incongruous that those in preventive psychiatry should place so little emphasis on this variable; however, by noting their high response rate within the next category, "utilization of existing personnel," those in preventive psychiatry may be seen to have placed about the same amount of emphasis on this aspect as do other groups. In effect, then, one can see that respondents in preventive psychiatry who noted this problem area tended to be more specific in its delineation than did respondents in other sub-groups.

It can be seen that "distribution of existing personnel" is a variable which parallels the first category of response on this table.

The category "poor delineation of roles and responsibilities" received only a 9 percent response rate over all. Noting the two extremes, the lowest rate being among psychiatrists with fee-for-service and part-time salary (individual practice) and the highest rate among medical school faculty and other full-time staff in hospital service, it would appear that the patterning of scores here is attributable to the fact that psychiatrists in individual practice will have delineated their own roles, and are likely to be more content than institutional psychiatrists.

The category "more efficient use of ancillary personnel" received a substantial response rate--over 13 percent. The variations from this overall response rate appear to indicate that psychiatrists in institutional work and connected with hospital administration are quite aware of any inefficiencies which may exist in the use of ancillary personnel, since it is they who have contact with ancillary personnel, whereas private practitioners who have minimal contact with such personnel are less aware of inefficiencies.

An interesting variation within the category "more short-term limited-goal therapy" is that none of the individual practice psychiatrists who derive their income from fee-for-service and from part-time salary noted that this might contribute to the solution of the problem. Some possible insight into the reason for this was given by one member of this group who works on a salary basis part-time because he does not have enough patients in private practice to make an adequate living. If this were true of other members of this group, they would not be concerned with short-term or limited-goal therapy, since they would apparently not be feeling the effects of a manpower shortage.

There was evidently some strong feeling about better cooperation between psychiatry and other associated fields, including clinical psychology, psychiatric nursing, etc. Nearly 14 percent of the total sample suggested this. There were two notably high groups here; these were the full-time salaried psychiatrists and those who derived income from both fees-for-service and part-time salary in individual practice.

Two categories of respondents proposed group therapy (including family therapy) with much greater frequency than did the others. These were full-time salaried psychiatrists who also received some fees for service, and those in preventive psychiatry. It might be noted that since group therapy, particularly family therapy, is often a preventive measure, it is natural that preventive psychiatrists would tend to recommend it more often.

Nearly 10 percent of the psychiatrists proposed some measures of preventive psychiatry. Responses were notably consistent among all sub-groups.

Most of the other categories in Table 3 were proposed relatively infrequently except for the proposal that there be increased emphasis on community services. This idea seems equally nebulous in the literature as well as among the psychiatrists in our sample, despite the fact that it was the most frequently cited suggestion in the entire realm of maximizing the utilization facilities or personnel currently available.

Responses per 100 Psychiatrists - Recruiting and Job Attractiveness

TABLE 4

	Direct Care of Patients - Private Practice	Direct Care of Patients - Not in Private Practice	Teaching	Fee for Service Only, Individual Practice	Fee for Service and Part Time Salary, Individual Practice	Full Time Salary, But Some Fee For Service - Individual Practice	Full Time Salary Only	Full Time Specialty Practice	Resident or Fellow	Other Full Time Staff in Hospital Service	Full Time Medical School Faculty	Preventive Medicine	All Psychiatrists
General unattractiveness of mental health fields discourages potential entries	7.14	14.53	4.44	6.67	3.70	5.56	14.80	7.84	11.63	15.87	2.78	16.67	11.32
Poor working conditions in mental health occupations discourage potential entries	8.16	17.09	15.56	6.67	7.41	24.08	15.24	8.82	18.61	15.87	16.67	16.67	14.47
Poor salaries keep people out of the field of psychiatry	36.73	35.47	33.33	31.67	40.74	44.45	33.63	35.29	36.05	34.92	30.56	41.66	35.53
Psychiatry has a poor public image	20.41	14.96	11.11	25.00	7.41	12.96	14.80	19.61	15.[illegible]2	15.87	13.89	12.50	16.05
Psychiatry has less prestige than other specialties	11.22	16.24	2.22	10.00	11.11	9.26	15.69	10.78	17.44	15.87	2.78	16.67	13.42
There is too much governmental interference	3.06	3.42	4.44	3.33	0.00	3.70	3.14	1.96	3.49	4.76	5.56	0.00	3.42
Inadequate recruiting programs	4.08	6.84	6.67	6.67	0.00	9.26	5.83	4.90	4.65	9.52	5.56	0.00	6.05
Suggests increased use of recruitment techniques	6.12	5.56	4.44	6.67	3.70	9.26	4.48	5.88	4.65	6.35	5.56	4.17	5.79
Begin recruiting in high schools	9.18	8.55	0.00	11.67	0.00	1.58	8.52	8.82	13.96	9.52	0.00	8.33	7.63
Get increased cooperation from medical societies	0.00	0.42	4.44	0.00	0.00	1.58	0.90	0.00	0.00	0.79	2.78	0.00	0.79
Conduct more research	5.10	0.42	13.33	5.00	0.00	5.56	5.83	4.90	5.82	4.76	13.89	4.17	5.79
Perform recruiting in colleges and/or in medical schools	7.14	9.40	8.89	11.67	0.00	12.96	8.52	6.86	4.65	12.70	8.33	8.33	8.68
A public indoctrination program would increase the number of mental health personnel	6.12	7.69	2.22	5.00	3.70	1.58	3.60	5.88	3.49	3.97	2.78	0.00	3.95

TABLE 4: RECRUITING AND JOB ATTRACTIVENESS

In Table 4 the responses which fell into the categories, "recruitment incentives" and "job attractiveness" are detailed. Five of these were each listed by a least 10 percent of respondents, the other eight with considerably less frequency. Ranked in order of importance the five most frequently mentioned were "poor salaries," "poor public image," "poor working conditions," "lack of prestige among the other specialties," and "unattractiveness of the mental health fields."

By a wide margin, the most frequently mentioned criticism was poor salaries. Within the categories of source of professional income there was an understandable distribution of frequency. Those in private practice were least discontent while those who earned their primary income from salary, but who gained some income from fee-for-service were most discontent. Those on full-time salaries alone appear less critical than do some other groups.

The distribution of those who express discontent with working conditions is the clearest example of the difference in emphasis between institutional and non-institutional physicians. The psychiatrists most frequently stating this idea were those on full-time salary but with some fee-for-service income, residents and fellows, and those engaged in direct patient care outside of private practice. Those least frequently stating this idea were those in individual practice deriving either all or most of their income from fee-for-service, along with those private practitioners who engage in direct patient care.

The psychiatrists who most frequently observed that a poor public image was contributory to the problem were those in the non-institutional groups, while those who least frequently noted this as a factor were those in the institutional groups. Thus it is again possible to see the difference in emphasis between these two major categories of psychiatrists.

Aside from these five problem areas, none of the individual notations concerning recruitment or job attractiveness was mentioned frequently enough to warrant further discussion.

Responses per 100 Psychiatrists - Miscellany

TABLE 5

	Direct Care of Patients - Private Practice	Direct Care of Patients - Not in Private Practice	Teaching	Fee for Service Only, Individual Practice	Fee for Service and Part Time Salary, Individual Practice	Full Time Salary, But Some Fee For Service - Individual Practice	Full Time Salary Only	Full Time Specialty Practice	Resident or Fellow	Other Full Time Staff in Hospital Service	Full Time Medical School Faculty	Preventive Medicine	All Psychiatrists
Increased demand	15.31	14.53	22.22	13.34	22.22	15.82	14.35	15.68	13.96	13.49	22.22	20.83	15.53
Pertinent, but not codable	16.33	17.09	11.11	13.34	14.82	14.82	16.59	15.68	13.96	19.84	11.11	12.50	16.05
Expansion of mental health field concept	6.12	13.25	15.56	1.67	7.41	5.56	19.73	5.88	10.47	13.49	13.89	25.00	11.58

TABLE 5: MISCELLANY

Table 5 shows some miscellaneous points. The second of these, "pertinent but not codable," is a measure of the impossibility of coding completely responses to open-ended questions. Since the overall response rate was four entries per respondent, these figures indicate that only about 1 response in 25 was impossible to code.

The table also shows that many psychiatrists thought that the core of the difficulty lies in the fact that demand for psychiatric services has increased rapidly in recent years, hence exceeding supply. Finally, it shows that 11 percent of the respondents indicated that a change in the delineation of what constitutes mental health fields would be a desirable development toward the solution of mental health manpower shortages.

Summary Highlights

When grouped into five major categories of responses, i.e., General Comments, Training and Education, Utilization, Recruiting and Job Attractiveness, and Miscellaneous Suggestions (including those responses which were pertinent but could not be coded), it becomes apparent that, overall, there is a slight difference in the reactions to, and opinions about, the mental health manpower shortage between private practitioners and psychiatrists not in private practice. Private practitioners appear, for the most part, to view the problem of a manpower shortage in a broader context than do institutional practitioners, and to recommend more general solutions.

Although it is the consensus of all respondents that a problem does exist (only 1.84 percent of all respondents feel that there is no shortage), fully 5 percent of those psychiatrists in the fee-for-service, individual practice category indicated their belief that there is no shortage. A few respondents on full-time salary with no other source of professional income also indicated that no shortage exists. In contrast, every respondent deriving a portion, but not all, of his income from salaried practice (this group includes psychiatrists practicing part of the time in institutions) agreed that shortages exist.

Such differences in attitudes concerning the possibility of a shortage in mental health manpower appear to indicate that those psychiatrists with relatively few patients, with less experience in handling large numbers of patients, and those closely associated with only the private practice aspect of psychiatry, as well as those associated solely with institutional psychiatry, are somewhat less aware of any shortages which may, in fact, exist. Conversely, those persons whose work is involved with, but not limited to, institutional practice appear to be in the better position to see not only whether a shortage exists, but also in which areas of patient care it exists.

The distribution of those who express discontent with working conditions provides the clearest example of the difference in emphasis between institutional and non-institutional psychiatrists. The former group lists poor salaries and working conditions as major factors contributing to the manpower shortage, while the members of the latter group, having delineated their own roles, are more likely to be content with their positions.

Those individuals most directly involved with institutions indicate a greater awareness of and concern with the problems of reorganization and redistribution of existing doctors, ancillary personnel, and facilities.

Finally, those individuals most closely connected with teaching more frequently recognize deficiencies of their field, including inadequate and too lengthy training programs.

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MENTAL HEALTH MANPOWER—VOLUME II

Recruitment, Training, and Utilization–

A Compilation of Articles, Surveys,
And a Review of Applicable Literature

• A Mental Health Planning Study

CALIFORNIA DEPARTMENT OF MENTAL HYGIENE
James V. Lowry, M.D., Director

VT002555
Part 2 of 2

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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MENTAL HEALTH MANPOWER–VOLUME II

RECRUITMENT, TRAINING, AND UTILIZATION–A COMPILATION OF ARTICLES, SURVEYS, AND A REVIEW OF APPLICABLE LITERATURE

June 1967

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Preface

This report is the second of a two-volume series designed to provide a base for mental health manpower planning. Volume I includes an extensive annotated bibliography. It identifies individuals and organizations knowledgeable about manpower and includes a partial compilation of current research in the field.

Volume II includes further bibliographic and research information. Its major contribution, however, lies in the articles and commentaries relating to various aspects of the mental health manpower problem.

It is important to note that both volumes provide information on developments in the broad area of scientific and professional manpower, relating them to trends and requirements in the mental health field.

The preparation of this volume was supported by a mental health planning grant by the National Institute of Mental Health.

Ralph Littlestone, *Chief*
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Foreword

The California Medical Education and Research Foundation is pleased to present this study, the second phase of a research project conducted under a contract from the California State Department of Mental Hygiene. It is the hope of the foundation that this publication will represent a meaningful contribution to the understanding and resolution of a number of problems related to methods of relieving manpower shortages in the field of mental health.

Our profound appreciation is expressed to the members of the advisory committee, consisting of Stuart C. Knox, M.D., Mr. Ralph Littlestone, Chief of Planning of the California State Department of Mental Hygiene, Eliot Rodnick, Ph.D., Samuel R. Sherman, M.D., Emmy Lanning Shockley, R.N., Alexander Simon, M.D., and Malcolm B. Stinson, Ph.D.

We are grateful to the authors of the creative papers for their original contributions and numerous insights, which we believe offer the promise of enriching our knowledge and aiding in the efforts of numerous groups throughout the country.

As for the staff of the foundation, who labored long and diligently in the preparation of the background papers, the surveys, and the compilations which are part of this study, this publication is demonstrable evidence of their dedication and commitment to a difficult task.

Murray Klutch, Director of Research of the California Medical Association and of the California Medical Education and Research Foundation, served as project director. Patricia Callahan, as project supervisor, contributed materially and most significantly to the outcome of the study. Michael W. Jones, assistant director of research, was responsible for a number of suggestions and contributions, as were Donald Wood, Anne Braxton, Sharon MacArthur, Lettera Van Der Vegt, and David Martin. Toni Bailey, Jean Chadwick, Diana Dwane, Elizabeth O'Regan, and Marjorie West provided the library, secretarial, and typing skills.

The ideas and philosophies expressed in this report do not necessarily represent the official views of the California Medical Education and Research Foundation or of the California Medical Association. Rather, our intention has been to encourage the widest expression of viewpoints possible, in the hope of stimulating further thought and action on a subject of increasingly vital importance.

The California Medical Education and Research Foundation acknowledges its debt to Dr. Samuel R. Sherman, chairman of the Bureau of Research and Planning, and to Dr. Stuart C. Knox, chairman of the CMA Committee on Mental Health, for their participation in this undertaking on behalf of the medical profession in California.

Introduction

This volume of the mental health manpower study is composed of eight sections, dealing with the alleviation of the current shortages of personnel in the four core mental health professions of psychiatry, clinical psychology, psychiatric social work, and psychiatric nursing; it also considers the shortage of psychiatric aides and other ancillary personnel.

Chapter I is composed of six background papers, based on a selective survey of the literature in the manpower field, which provide a review of information pertinent to the problem. Subjects of these papers are:

1. Education of mental health personnel, with emphasis on medical education per se as the source of the pool from which psychiatrists are drawn;
2. Recruitment and occupational choice, including discussions of theories of occupational choice and of the techniques that have proved valuable in increasing the professional manpower pool in many areas other than mental health;
3. Utilization of personnel and facilities, including techniques that have proved effective in hospitals and other institutions;
4. Financing of medical and professional education, with an eye to increasing the total professional manpower pool;
5. Technology, with emphasis on recent advances in therapeutic techniques, including chemotherapy, and their effect on the utilization of existing personnel; and
6. Community mental health centers, including a discussion of the history, financing, and increasingly important role of the community center as opposed to the state institution.

Chapter II is composed of seven original papers, written by persons prominent in the mental health and manpower fields, dealing with various aspects of the manpower shortage. The authors, presented in alphabetical order, and their articles, are:

1. George W. Albee, chairman of the Department of Psychology of Western Reserve University and former director of the Task Force on Manpower of the Joint Commission on Mental Illness and Health, on "Needed: A Conceptual Breakthrough" in thinking about mental illness;
2. Daniel Blain, M.D., president of the American Psychiatric Association and former director of the California State Department of Mental Hygiene, on "The Use of People in Mental Health Activities";
3. Wallace R. Brode, Ph.D., scientific consultant, on "Scientific and Medical Manpower for Mental Health Programs";
4. Joseph A. Cavanaugh, Ph.D., chief of Mental Health Manpower Studies Program, National Institute of Mental Health, on "Mental Health Manpower Research";
5. Lawrence Kubie, M.D., of the Sheppard and Enoch Pratt Hospital, on "The Overall Manpower Problem and the Creation of a New Discipline: the Nonmedical Psychotherapist";
6. Lee Sherman Sanella, M.D., of Napa State Hospital, on "Cross-Fertilization: Its Impact on Utilization and Training of Mental Health Personnel"; and
7. Mrs. Betty M. Vetter, executive secretary of the Scientific Manpower Commission, on "Meeting Scientific Manpower Needs in the Future."

Chapter III consists of the comments of six manpower and mental health experts who were asked to evaluate the papers and express their own views:

1. Earl E. Staton, executive director, Kentucky Mental Health Manpower Commission, has prepared an overview of the articles, entitled "An Action Program for Mental Health Manpower," which serves as a critical summary of the articles and as an introduction to this chapter;
2. Leonard Duhl, M.D., National Institute of Mental Health;
3. Paul J. Hoffman, director, Oregon Research Institute;
4. Harold L. McPheeters, M.D., associate director for mental health training and research, Southern Regional Education Board;
5. Philip E. Ryan, executive director, National Association for Mental Health; and
6. Donald E. Super, Ph.D., teachers college, Columbia University.

Chapter IV includes a paper summarizing the results of a questionnaire survey of the views of training directors on psychiatric education and the implications of these views for the supply of psychiatric manpower. This questionnaire, composed of seven open-ended questions, was sent to 33 training directors of psychiatric residency programs in California, in an attempt to secure opinions on, and share insights into, the effects of psychiatric residency programs in the state on manpower supply and utilization. Replies to each question are broken down into eight categories of response, and six tables are provided. As an ex-

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ample of the results of the survey, the present trend, as stated by 20 of the 21 respondents to the questionnaire, is toward community mental health centers, short-term therapy, and wider use of ancillary personnel.

Also included in this chapter is a short paper, by Benjamin Kovitz, M.D., chief of professional education at Patton State Hospital, Norwalk, entitled "Thoughts on Psychiatric Training," which includes important suggestions for utilization and recruitment of personnel, as well as for education.

Chapter V contains the final results of a questionnaire survey of psychiatric opinion. This questionnaire, mailed to 740 Cailfornia psychiatrists, covers such topics as recruitment, use of the nonpsychiatric physician, ancillary personnel, technological advances, and restructuring of the mental health field. Five tables are provided, categorizing respondents according to nature of professional activities, source of income, and type of practice.

Chapter VI is composed of a summary of techniques applicable to the alleviation of the mental health manpower shortage and is largely a recapitulation, with minor revisions and additions, of the list of concepts and techniques published in Volume I of the mental health manpower study.

Chapter VII consists of a selective summary of current research in the field of mental health manpower. Information for this summary was gathered directly from the organizations and individuals conducting the research, in order to present some of the current projects and studies which are relevant in attempting to deal with manpower shortages wherever they exist.

The appendix is a continuation of the annotated bibliography begun in Phase One of this study and contains summaries of 50 applicable books and articles dealing with education, recruitment, financing, utilization, and reorganization of manpower in the fields of education, health, and mental health.

In compiling this volume, the second of two dealing with the problem of the critical shortage of manpower in the professions, and particularly in the field of mental health, it has been our hope to present relevant data in such a fashion that the interested reader might be stimulated to further thought and perhaps to the formulation of new approaches to problems in his own area.

It is obvious that a combination of recruitment into all professional fields, education of every individual to the maximum of his capabilities, and efficient utilization of existing personnel and trained but inactive manpower reserves would insure an adequate supply of mental health workers. Yet contemplation of every factor involved, of the intrinsic limits of our present educational facilities, of the importance of the motivation and financing of students at all levels, of alternative patterns of utilization and their relative efficiency, of the more technical aspects of recent psychotherapeutic techniques, or merely of attempting to determine the actual demand for more personnel in a given field, becomes an almost impossibly difficult task. After more than two years of investigation into the myriad intricacies and ramifications of the problems involved, we are still impressed with the breadth as well as with the depth of the factors that must be considered, not only in the mental health field, but also in the fields of education, economics, medicine, and sociology.

In editing this volume we have often, reluctantly, discarded materials that might well have been included, on the basis that they had been thoroughly and succinctly covered elsewhere in the literature, or in Volume I of this study. There is some repetition in the creative papers, particularly of statistics and projections, as well as many varied and conflicting opinions and ideas. Very little editing has been done on these papers, in order to retain the originality of the contributions.

It is possible that every reader will find something in this volume with which to disagree; but, if he acknowledges the existence of a manpower problem, it is hoped that he will also find much of interest and of value in applying his talents and opportunities to aid in resolving it.

Chapter I

BACKGROUND DISCUSSION

EDUCATION FOR THE MENTAL HEALTH PROFESSION

In preparing the background paper on education, it soon became apparent that much of the material to be covered had already been dealt with in the articles by experts in the field, all of whom mention education as a means of increasing the supply of manpower, and several of whom elaborate in some detail on this topic. It was decided, therefore, in the interests of avoiding redundancy, to review the applicable sections of these articles, and to refer the reader to these sections, when necessary, rather than repeating the information in this article.

As has been pointed out in the background paper on recruitment and occupational choice, the possibility of maintaining or improving the existing psychiatrist[1] population ratio is inextricably involved with the problem of maintaining the supply of professionals in all fields, and depends ultimately on making certain that every individual in the society has the opportunity of education to the fullest extent of his capabilities.* Undeveloped resources in the scientific and professional fields have been summarized quite succinctly by Daniel Blain, M.D.[1]

"Only one-half of those who are capable are now entering college. Two-fifths of those who start college do not graduate. Twenty-five of those who graduate have the ability to get doctors' degrees, for every one who actually gets such a degree." (For further discussion of underdeveloped resources, see papers in Chapter II by Daniel Blain, Wallace Brode, Lawrence Kubie, and Betty Vetter, as well as the background paper on utilization.)

Blain further points out that there are basically four potential manpower groups in reserve, which could be tapped if the proper formulae were developed: (1) high school graduates who do not enter college; (2) those who start but do not graduate; (3) graduates who do not pursue postgraduate training; and (4) the "hidden reserve" of capable students, particularly in minority and underprivileged socioeconomic groups, who score low on achievement tests because of deficiencies in early schooling.

It is, however, beyond the scope of this paper to attempt to develop the "proper formulae" for tapping the potential manpower reserves; instead, the focus will be on medical education, in view of the fact that the pool of potential psychiatrists is contained entirely in the population of medical school graduates.*

Education of other mental health personnel, psychologists, psychiatric nurses, and psychiatric aides will also be mentioned.

As noted above, in order to expand the pool from which students of psychiatry may be drawn directly, it is first necessary to increase the number of persons in the college population as a whole. It has been estimated[2] that almost half of the college-age population with the mental ability to obtain and utilize a college education never enter college at all, and only about a third graduate. Thus, approximately two-thirds of the mentally superior college-age professional manpower is scarcely tapped, since almost all professional positions require a college education. It is also estimated that only 4 percent of college graduates go on to earn doctoral degrees, including the M.D. This figure represents less than one-half of 1 percent of the college-age population, as opposed to the 6 to 7 percent who have the ability to obtain such a degree.

One reason for the discrepancy between the potential and actual professional pools in the field of medicine is the inflexible upper limit of available space in the medical school, as discussed in this volume by Wallace Brode, George Albee, and Lawrence Kubie. Possible solutions to the problem, such as establishing new medical schools,. or shifting some of the burden to Ph.D.'s in psychology and in newly created professions, are also discussed. Joseph Cavanaugh mentions federal support of educational institutions, and Betty Vetter speaks of revising the educational system to make greater allowances for individual differences in intelligence and ability. Other suggestions are expanded programs for ancillary personnel, such as aides, and for two-year schools, to remove some of the burden from the four-year medical school.

A great deal of information on the ways in which medical educational can grow to meet rising demands may be found in the education numbers of the *Journal of the American Medical Association,* published annually in November. (These issues also contain statistical data on the characteristics of medical students, on teacher supply and demand, and generally present a thorough survey of the background of medical education in the United States.) At the present time, 12 institutions have announced their intention of establishing new medical schools; of these, four plan to meet requirements for only the first two years of the medical curriculum. George Albee, Wallace Brode, and Lawrence Kubie discuss, in Chapter II, the difficulties of trying to meet the overwhelming rise in the college-age population through the necessarily slow expansion of facilities.

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* The problem of training and utilizing the college-age population to maximum advantage is also discussed by L. S. Goerke, M.D., in his excellent article, "Utilization, Recruitment, and Training of Health Manpower," *American Journal of Public Health,* Vol. 53, No. 10, October 1965, pp. 1511–1520.

[1] Daniel Blain, "Manpower Studies with Special References to Psychiatrists," *American Journal of Psychiatry,* Vol. 119, No. 9, March 1960, p. 792.

* It might be noted that the National Merit Scholarship Corporation is engaged in a program aimed at the acquisition of knowledge "which will be of general value in understanding the nature of talent and its development."[3] Among the areas covered are the identification of talent, the conservation of talent, influences of education on achievement and vocational plans, and the origins and development of vocational goals.

[2] Henry David, *Education and Manpower,* Columbia University Press: New York, 1960, p. 232.

[3] National Merit Scholarship Corporation, *A Program of Research on the Identification, Motivation, and Training of Talented Students,* Technical Report No. 7, p. 1.

One solution to the problem of rechanneling the qualified student who is not accepted to medical school is proposed by Wallace Brode, who, along with Lawrence Kubie, urges the formation of a new discipline, doctor of psychiatry, or doctor of medicine in psychiatry, with specialized training in psychiatry for the clinical psychologist. He presents statistics concerning the shifts by undergraduate students from science to humanities majors, and the rising proportion of Ph.D.'s granted in relation to the number of M.D.'s, with projections to 1975, in support of his concept. Lawrence Kubie outlines an entire program, including a detailed curriculum, for such a degree.

In the meantime, it is felt that curriculum revision will be necessary in the medical school to allow the student to absorb and integrate the exponentially accumulating amounts of information presented in the four years of medical school. According to Joseph A. Gengerelli, Ph.D.[4], "The much advertised 'knowledge explosion' poses grave problems for all of us who work in the sciences, but the difficulties are especially great in a discipline like medicine which draws from all the strata in the pyramid of scientific knowledge." He warns against merely fractionating, lengthening, and specializing the medical curriculum to the exclusion of understanding, and suggests that each course ". . . be structured so as to achieve a maximum of insight and a minimum of economic burden."

A plan for curriculum revision along these lines is proposed by Thomas Findley, M.D.[5], who feels that:

> "Interns and residents are graduate students in fact and should be recognized as such . . . First, a continuous eight-year curriculum would permit a considerable amount of didactic material to be moved out of the first four years and into the postgraduate period. Most of the academic substance taught to undergraduates in the surgical specialties, and a goodly portion of what is taught by medical consultants, could well wait until the fifth or sixth year. Probably a third of the present curricular hours could be released to the basic sciences and to extended instruction in the broad field of clinical medicine. . . .
>
> "A beginning seems to require that medical schools recognize that the curriculum is now, in fact, 8 to 10 years long. It is not more time that is required, however, but simply a longitudinal redistribution of instructional hours."

In addition to modification of curricula, postgraduate education aids in the assimilation of rapidly expanding knowledge. "Such activities are intended both to refresh the individual in various aspects of his baisc medical education and to inform him of new developments within his field. . . ."[6] As of August 1965, 253 postgraduate courses were offered in psychiatry, more than in any other specialty category. These data emphasize the fact that the general practitioner plays an extremely important role in the psychiatric care of his patients.

In the area of special training for the psychiatrist, Temple University Medical School has undertaken a three-year research project to train psychiatric residents in treating patients in lower socioeconomic strata, with services specifically designed for the community in which the hospital is located.[7]

In-service training programs in state hospitals, as mentioned by Sherman Sanella in this volume, are potentially of great importance in that they allow the physician or psychiatrist to continue his practice while improving his professional status.

Training of nonmedical personnel, and especially of psychologists and other Ph.D.'s in psychiatry is discussed by George Albee, Wallace Brode, and Lawrence Kubie. In the education of nurses, a new development is the associate in arts degree program, usually offered by a junior college, which, by the careful selection of specialized curriculum, offers a nursing degree in two years.[8]

It has been pointed out that "training facilities for health personnel have not kept pace with the increase in the work force . . . With increased demand for services, hospitals and other health agencies . . . have tended to hire 'pairs of hands' to supplement the professional and technical workers and to provide some form of on-the-job training of a more or less informal nature."[9] In Pittsburgh, Pennsylvania, a systematic approach to short-term intensive technical training in the health fields has been developed by the school board, in cooperation with health leaders, for the training of ancillary personnel. Courses combine classroom work with practical experience, insuring a thorough knowledge of the duties and responsibilities of the positions and eliminating the haphazard elements of on-the-job training alone.[10]

Along the same lines, under a recent $1.2 million contract between the Department of Labor and the American Hospital Association, approximately 4,000 unemployed workers are to be trained for hospital jobs. A series of training outlines for such positions as nurses' aides and orderlies are to be formulated.[11]

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[4] Joseph A. Gengerelli, Ph.D., "Education in the Sciences," *Journal of the American Medical Association,* Vol. 193, No. 7, August 1965, pp. 113–114.

[5] Thomas Findley, M.D., "The New Curriculum—Four Years or Ten?" *Journal of the American Medical Association,* Vol. 189, No. 6, August 10, 1964, p. 518.

[6] "Continuing Courses for Physicians," *Journal of the American Medical Association,* Vol. 193, No. 6, August 9, 1965, p. 447.

[7] Louise Kanter, Ph.D., *Training Psychiatric Residents to Work with Lower Socioeconomic Patients,* Bureau of Planning, California State Department of Mental Hygiene, October 1964, 16 pp.

[8] Appolonia O. Adams, R.N., *Nursing Resources,* Department of Health, Education and Welfare, Public Health Service, No. 551, p. 7.

[9] Robert M. Sigmond and Thomas E. Callahan, "Hospitals and Schools Unite in Manpower Training Programs," *Hospitals, Journal of the American Hospital Association,* Vol. 39, July 1, 1965, p. 41.

[10] *Ibid.*

[11] "Hospitals Step Up Job Training," *Medical World News,* Vol. 6, No. 13, April 9, 1965, p. 51.

In the training of such personnel as psychiatric orderlies, it is possible that the mental health fields might borrow techniques from other areas. For example, the Bank of America employs Edex, a teaching machine which, combining a live teacher and intensive home study with slides, tapes, and tests providing instantaneous feedback, can condense a full semester's work into four full-day sessions.

Finally, combining education and recruitment, the Western Council on Mental Health Training and Research of the Western Interstate Commission for Higher Education has instituted a series of summer work-study programs, which "provide college students with opportunities to test career choices in the mental health professions and related fields. Students spend several weeks under academic instruction on a university campus and eight weeks working and studying in institutions for the mentally ill, mentally retarded, community clinics, correctional facilities or probation agencies. These students receive college credit and a stipend for their summer's work."[12]

It is hoped that this brief summary is of value in pointing up trends in the area of education for mental health, for, as Joseph Cavanaugh says, "training and educational facilities furnish the most effective, though traditional method of adding to the manpower pool, maintaining quality and making up a deficit resulting from attrition."

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[12] "Work—Study Problems Grow," *Higher Education in the West*, Vol. XI, No. 2, January 1965, p. 1.

RECRUITMENT AND OCCUPATIONAL CHOICE

Introduction

The problem of recruitment is but one aspect of the extremely complex problem of increasing the number and efficiency of workers in the mental health fields. Although it is difficult to consider the subject apart from the interrelated areas of education and utilization, this paper will deal with occupational choice and recruitment.

Occupational choice may be defined as the process whereby the individual arrives at a decision regarding his career. It is an internal, ongoing process, involving several stages and many years, and including the ways in which the individual reacts to recruiting programs; the definition of the place of occupational choice in the active recruitment process will be one area of concern of this paper.

Recruitment, for the purposes of this article, includes the direct application of any technique or effort designed to attract individuals to, or motivate them to enter, a specific area of endeavor, be it advanced education, a general occupational field such as science, or a specific occupation such as psychiatric nursing. The act of recruitment deals essentially with the external aspects of the total problem, with the actions that may be taken by the recruiter to induce the individual to enter a certain field, or to aid the individual in making an occupational choice. The high cost of recruitment has been met largely by funds from professional associations and local business and other private organizations. Even after the expenditure of millions of dollars, no universally effective recruitment program has been established; recruitment practices continue to be adapted to specific areas, institutions, and even individuals.

As George W. Albee says:

> "We know of no national effort that is consciously, systematically, aggressively working at the problem of creating favorable images of professional people among high school students, or even in making certain that all high school students have an opportunity to learn that they are desperately needed in certain fields, such as psychiatry, psychiatric nursing, and psychiatric social work."[1]

The first part of this paper outlines the major theories of occupational choice and describes some current research in the field. Part two discusses recruiting agents and techniques that have been directed to high school students, to college students, and to volunteers. The last section deals with a proposed solution to the general professional manpower shortage, taking into account the theories of recruitment and occupational choice that have been discussed, and the relationships between the two concepts.

Occupational Choice

A remarkably clear summary and synthesis of some of the most important theories in the field of occupational choice has been developed by Dr. Donald E. Super, in a Table of Vocational Life Stages, which he has kindly given us permission to reproduce. This table, which provides "a brief description of the nature of the vocational behavior which seems characteristic of each life stage and . . . indicates the approximate age limits of the stages," unifies the major ideas of Charlotte Buehler, D. C. Miller and W. H. Form, and Eli Ginzberg and Associates.[2]

Vocational Life Stages

1. *Growth Stage* (birth–14)

   Self-concept develops through identification with key figures in family and in school; needs and fantasy are dominant early in this stage; interest and capacity become more important in this stage with increasing social participation and reality testing. Substages of the growth stage are:

   FANTASY (4–10). Needs are dominant; role playing in fantasy is important.
   INTEREST (11–12). Likes are the major determinant of aspirations and activities.
   CAPACITY (13–14). Abilities are given more weight, and job requirements (including training) are considered.

2. *Exploration Stage* (15–24)

   Self-examination, role tryouts, and occupational exploration take place in school, leisure activities, and part-time work. Substages of the exploration stage are:

   TENTATIVE (15–17). Needs, interests, capacities, values, and opportunities are all considered. Tentative choices are made and tried out in fantasy, discussion, courses, work, etc.
   TRANSITION (18–21). Reality considerations are given more weight as the youth enters labor market or professional training and attempts to implement a self-concept.
   TRIAL (22–24). A seemingly appropriate field having been located, a beginning job in it is found and is tried out as a lifework.

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[1] George W. Albee, *Mental Health Manpower Trends.* Quoted in *Manpower for Mental Health,* Kentucky Mental Health Manpower Commission, p. 5.

[2] Donald E. Super, *et al., Vocational Development: A Framework for Research,* pp. 40–41.

Eli Ginzberg, many of whose ideas are incorporated in the above outline, sums up his general theory in this way:

> "First, occupational choice is a process which takes place over a minimum of six or seven years, and more typically, over 10 years or more. Secondly, since each decision during adolescence is related to one's experience up to that point, and in turn has an influence on the future, the process of decisionmaking is basically irreversible. Finally, since occupational choice involves the balancing of a series of subjective elements with the opportunities and limitations of reality, the crystallization of occupational choice invariably has the quality of a compromise."[3]

Ginzberg and his associates apply their theories in a number of interviews, the structure of which may be analyzed according to a categorical scheme in terms of "self," "reality," and "key persons." The first of these categories, "self," deals with the capacities, intelligence, interests, goals, values. and time perspective or schedule of the individual as they pertain to his occupational choice. The second category, "reality," includes the influence of the family, education, awareness of the world of work, and the expected life plan. "Key persons" are those who play an important part in the choice of an occupation; often a parent, relative, teacher, or friend assumes this role.[4]

Another theory of occupational choice is that proposed by John L. Holland, who attempts to "delineate a theory of vocational choice which is comprehensive enough to integrate existing knowledge and at the same time sufficiently close to observables to stimulate further research."[5] This theory assumes that:

> "At the time of vocational choice the person is the product of the interaction of his particular heredity with a variety of cultural and personal forces including peers, parents, and significant adults, his social class, American culture, and the physical environment. Out of this experience the person develops a hierarchy of habitual or preferred methods for dealing with environmental tasks. From an ecological standpoint, these habitual methods are associated with different kinds of physical and social environments, and with differential patterns of abilities. The person making a vocational choice in a sense 'searches' for situations which satisfy his hierarchy of adjustive orientations."

The foregoing approach is further elaborated "in terms of the occupational environments, the third person and his development, and the interactions of the person and the vocational development." Major occupational environments and orientations include motoric, intellectual, supportive, conforming, persuasive, and aesthetic. Orientation represents distinctive life styles which may be defined by interest or personality inventories, is characterized by preferred methods of dealing with daily problems, and includes such variables as values, interests, and other personal factors. The most dominant life style of the individual's hierarchy determines the major direction of his occupational preference.

Although the concepts of occupational choice described briefly above are by no means the only ones that have been proposed, they do provide a general view of work in the area; and since a comprehensive survey is beyond the scope of this paper, the interested reader is referred to the books and authors mentioned above, as well as to *The Psychology of Occupations*, by Anne Roe.[6]

The practical applications of any theory of occupational choice may not be immediately obvious; such theories are, however, a growing force in the field of occupational guidance. A current shift of emphasis in this field redirects the interest of the counselor from helping the individual who already has encountered severe difficulties in the occupational choice process to the avoidance of the errors which initially lead to these difficulties. Ginzberg et al. suggest that the theory of occupational choice they propose, "by providing strategic guideposts, will assist counselors to recognize more clearly the type of counseling and timing that can be most effective."[7] Successful counseling aids the individual in translating his interests into a realistic occupational choice, compatible with his goals and values. The authors just cited list a series of recommendations which are "aimed at altering the present policies and procedures of parents, teachers, and counselors in their dealing with adolescents who are determining their occupational choice."[8]

Research in the field of occupational choice is often based on the investigation into one aspect of a given theory. Donald A. Davis, Nellie Hagan, and Judie Strouf, for example, have conducted a study, based on Ginzberg's theory, of the occupational choice of 116 12-year-old sixth graders, with the intention of discovering whether 12-year-olds make more tentative than fantasy choices. The study further inquired into whether such choices were a function of age alone or were affected by such factors as socioeconomic environment, sex, race, intelligence, and reading retardation. Conclusions reached were that 60 percent of these students had made tentative occupational choices and that "more mature choices seem to correlate positively with intelligence and female sex but not with race or socioeconomic environment." This study substantiates to a large degree Ginzberg's theory.[9]

A study conducted by George Holden was designed to determine whether or not any relationship exists between level of intelligence and persistence of level of career choice. Hypotheses were that the high-ability groups would make more appropriate vocational choices than would the low-ability group; that students in the lower range of the intelligence continuum would be more likely to change their level of occupational choice between grades 8 and 11; and that, between grades 8 and 11, students at the lower levels would, as a group, tend toward vocational choices more suitable to their scholastic abilities.

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[3] Eli Ginzberg, *et al.*, *Occupational Choice—An Approach to a General Theory*, p. 198.

[4] *Ibid.*

[5] John L. Holland, "A Theory of Vocational Choice," *Journal of Counseling Psychology*, Vol. 6, No. 1, spring 1959, pp. 35–45.

[6] Anne Roe, *The Psychology of Occupations*.

[7] Ginzberg *et al.*, *op. cit.*, p. 243.

[8] *Ibid.*

[9] Donald A. Davis, Nellie Hagan, and Judie Strouf, "Occupational Choice of Twelve-Year-Olds," *Personnel and Guidance Journal*, Vol. 40, No. 7, March 1962, pp. 628–629.

Subjects consisted of 109 students in the same grade of the same school, arranged in smaller groups according to IQ. Educational and vocational plans of the study group at the eighth-grade level were compared with the plans of the same group at the 11th-grade level. Results support the hypotheses, with the conclusion that the aspirations of high-ability students are stable enough that long-range study programs may be formulated at the 11th-grade level. It is in such situations that the study of occupational choice is of practical interest to the guidance counselor.[10]

A further exploration of the process of occupational choice as it related to counseling has been conducted by David Pritchard, who believes that the counselor must become more concerned not only with the psychosocial factors associated with work, but also with the dynamics involved in self-at-work exploration. He offers the following tentative suggestions to stimulate the reexamination and reinterpretation of the traditional "matching" process, whereby the individual is matched with a static occupational niche, regardless of his continued growth and development.

First, "we must seek to obtain, develop, and use occupational tools sensitive to the expanded kinds of variables, occupational as well as personal, identified as significant to vocational development, success, and satisfaction." (Interestingly enough, such tools in themselves may influence the process of occupational choice and hence act as recruiting devices. Leona E. Tyler discovered that the Q-sort technique she was employing in a study of choice had the unexpected side effect of helping some of the subjects to crystallize their own thinking, to a greater degree than they had previously found necessary, regarding their own occupational decisions.) [11]

Second, occupational exploration should give precedence to the more comprehensive view of progressive vocational planning rather than to the limited concept of a one-time, final choice.

Third, self-exploration and occupational exploration should become more fully correlative processes.

Fourth, the search for information in the area of vocational exploration should be based on the particular personal-vocational factors and relationships significant in the individual case.[12]

One study employing the statistical technique of factor analysis was conducted by Sheila M. Chown on personality factors in the formation of occupational choice. In this study, 96 boys and 96 girls of grammar school age were queried concerning their interests, behavioral traits, and reasons for choosing their desired occupations. Responses were factor analyzed, yielding two unrelated factors of confidence and sociability. The conclusion of this study was that children do take into account such factors as interest, intelligence, and personality in selecting an occupational goal, but that there is a great need for guidance in self-assessment, which would give the individual a means of comparing himself with others in a given work situation, and of judging the occupational significance of what he finds.[13]

Further investigations in this field include those of Stanley J. Segal, who demonstrates that psychoanalytic theory can be utilized to predict personality differences in individuals choosing, in this study, either accounting or creative writing as an occupation. The hypothesis was derived from information about the kinds of activities required of the individual by each of the two professions, and the interaction of such activities with the satisfaction of the needs of the individual. The study compared the performance of the groups on a number of projective techniques; the psychiatric model was proved valid for a theory of occupational choice.[14]

An early study of the determinants of occupational choice was conducted by Ronald E. Scantlebury in 1948 concerning factors which influence the study of medicine. In this study, 191 third- and fourth-year medical students, residents, and interns were requested to name the factor which played the dominant role in their decision to study medicine. Fifteen factors were isolated, including: relatives in the profession; economic considerations; early desire; parental pressures; ability and interest in science; influence of teachers; influence of school administrators and counselors; association with the medical profession other than through family; pressure of need for occupational decision; work experience in related fields; reading; high school clubs; guidance programs; aptitude tests; and other factors, such as association with premedical students, desire to aid others or to do research, etc. Of these factors, high school clubs, such recruiting devices as information pamphlets and guidance programs, and aptitude tests were found to be the least effective and least frequently mentioned.[15]

Recruitment

The act of recruitment may include, in addition to the more obvious inducements and appeals, the restructuring of professions, the modification of curricula, and improved attention to previously untapped manpower pools and minority groups as sources of supply. The following section lists examples of recruiting techniques that have proved effective in the library and in the more general fields of science and engineering, as well as in the mental health fields.

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[10] George S. Holden, "Scholastic Aptitude and the Relative Persistence of Vocational Choice," *Personnel and Guidance Journal,* Vol. 40, No. 1, September 1961, pp. 36–41.

[11] Leona E. Tyler, "Research Explorations in the Realm of Choice," *Journal of Counseling Psychology,* Vol. 8, No. 3, fall 1961, pp. 195–201.

[12] David H. Pritchard, "The Occupational Exploration Process: Some Operational Implications," *Personnel and Guidance Journal,* Vol. 40, No. 8, April 1962, pp. 674–680.

[13] Sheila M. Chown, "Personality Factors in the Formation of Occupational Choice," *British Journal of Educational Psychology,* Vol. 29, Part I, February 1959, pp. 23–33.

[14] Stanley J. Segal, "A Psychoanalytic Analysis of Personality Factors in Vocational Choice," *Journal of Counseling Psychology,* Vol. 8, No. 3, 1961, pp. 202–210.

[15] Ronald E. Scantlebury, "Factors Which Influence Youth to Study Medicine," *Journal of Educational Research,* Vol. 42, No. 3, November 1948, pp. 171–181.

Many of these techniques are applicable to more than one area of endeavor.

The following section of this paper approaches the catalogue of recruitment techniques according to the age of the potential recruit and his current occupation or level of academic achievement.

Guiding high school students into broad general areas of interest, such as science, which they may pursue at a higher academic level prior to specialization, is one of the most important and fruitful aspects of active recruitment. It should be remembered that "psychiatrists come from colleges of medicine, that medical candidates come from the science manpower pool, that this is recruited in college [and] that colleges obtain their students from high schools. . . ."[16]

Recruitment of the medical student into the specialty of psychiatry can be accomplished only after a number of occupational decisions have already been made. Early in the student's career, it is important to make sure that no avenue of endeavor is closed to him, except by his own limitations. As Frank M. Fletcher says, ". . . an increase in the creative productivity of our labor force may be accomplished only by getting a *larger proportion* of our young people *voluntarily* to pursue training to a higher level, compatible with their own abilities, interests, needs, and values."[17]

A number of programs have proved successful in fostering an interest in science at the high school level. A good example of such a low-pressure technique is the Franklin Institute Program in Philadelphia, Pennsylvania. On the assumption that the critical shortage of science and engineering students is due, at least in part, to lack of early and stimulating experience in those fields, the institute operates a scientific museum and a planetarium, and sponsors lectures and demonstrations designed to supplement the science curriculum offered by the public schools. The institute also offers a number of supplementary courses in such subjects as physics, astronomy, and computers, for students ranging in age from eight years through adult. A museum teaching program is also in effect, in cooperation with the Philadelphia schools, under which science teachers make use of museum facilities to instruct their regular classes. Other ventures of the institute include a program of student seminars, science fairs, lecture series, career forums, close cooperation with scientific and technical societies, a speakers bureau, a scientific library, seminars for teachers, and special lectures for the parents of school-age children.

The Franklin Institute programs are based on the philosophy that "the best way to attract young people is by radiating one's own complete satisfaction with a scientific or technical career." The institute does not attempt to recruit for a particular discipline, but to foster a long-range interest in the scientific and technical disciplines, realizing that "the crisis in scientific and technical personnel is not likely to be alleviated for many years."[18]

Professional and scientific organizations often take an interest in recruiting young people into the study of science. For example, the Engineering and Technical Societies Council of the Delaware Valley (ETSCO), a coordinating body representing 32 technical and scientific societies and institutions, is concerned with "enhancing the status and public image of the scientific community, school relations, and student guidance." Prime motivation for this institution is the combination of a growing demand for more scientists, engineers, and technicians, and the continuing decline in college enrollment in these fields; its program is designed to stimulate the interest of young people in scientific and technical careers, and to provide them with a proper perspective on career opportunities in these areas.

ETSCO projects include a bimonthly booklet, the *Delaware Valley Science and Engineering Newsletter,* sent to science and mathematics teachers, counselors, and school administrators, which provides information on speaker topics, motion pictures available on loan, demonstrations as an in-school service, pamphlets, college and university extension courses, and career guidance programs and seminars. The philosophy behind this well-received newsletter is that "a service, no matter how important or how much needed, will not be used unless it is readily and conveniently available."

In the Delaware Valley, ETSCO has assumed a coordinating role in the formation of Junior Engineer Technical Societies (JETS), clubs formed for the purpose of enhancing the science and engineering programs of local high schools, with the result that the number of clubs in the area more than doubled in 1960 and 1961, for a total of 22.

Perhaps the most important of ETSCO's efforts is a career guidance program aimed at high school juniors, designed to present a comprehensive and realistic view of the opportunities in and requirements for careers in science and engineering. This program consists of a series of six lectures, given by men prominent in their fields, and attended by invitation only.

The central organization of the 32 participating societies ensures that a broad variety of services and programs will reach the widest possible audience.[19]

Cooperation of industry with schools or with recruiting programs often proves beneficial for both. In Oklahoma, the Frontiers of Science Foundation, a nonprofit corporation with 400 of Oklahoma's top educators and business and professional men as members, has been established to help Oklahomans to "grasp something of the extraordinary technological and social changes now facing Oklahoma and the United States." The foundation has an annual expenditure of approximately $100,000, contributed by corporations of all sizes and by individuals. Projects supported by the foundation fit into one of three categories: education, public information, or research. Education projects have included five one-day symposia on such topics as "The Origins of Life" and "IGY Report," presented with the help of such organizations as the American Institute of Biological Sciences, to superior high school students; two statewide testing programs in the high schools which concluded, among other things, that science and engineering do not rank high as careers in the students' estimation of social status; a program of scholarships and summer research jobs for outstanding biological science students in the 11th grade; educational tours and programs for science and mathematics teachers at the annual teachers' convention; and a packet service which distributes modern, low-cost teaching materials to all secondary mathematics and science teachers in Oklahoma.

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[16] Commission on Manpower, American Psychiatric Association. Minutes of the Manpower Commission Meeting, December 12–13, 1963, p. 2.

[17] Frank M. Fletcher, Jr., "Manpower for Tomorrow—A Challenge," *Personnel and Guidance Journal*, Vol. 37, No. 1, September 1958, pp. 32–39.

[18] Robert W. Neathery, "Bending the Twig—The Franklin Institute Program," *Scientific Manpower, 1962*, pp. 21–25.

[19] Kenneth E. Karmel, "The Program of the Engineering and Technical Societies Council of the Delaware Valley," *Ibid.*, pp. 27–32.

Public information programs sponsored by the foundation employ three devices: annual spring symposia, dealing with problems in education and in science; broad news coverage of these symposia; and a speakers' service utilizing both visiting speakers and foundation members all over the state.

The theme of the foundation's first educational program, in 1955, was "Oklahoma's New Frontiers: Science, Industry, and Education." The foundation hopes to solve, by direct action, the problems that Oklahoma is encountering on its new frontiers. Not the least of these problems is the lack of awareness exhibited by students regarding scientific, technical, and engineering careers. For this reason, the 1962–1963 foundation program included support of the activities of the Junior Engineering Technical Society, a number of symposia on related subjects, and the initiation of a group of engineering scholarships.[20]

Instances of direct cooperation between industry and education are numerous. General Electric, the Boeing Co., Bell Telephone Laboratories, the Standard Oil Co., and E. I. du Pont de Nemours and Co. are only a few of the major corporations actively engaged in such projects as summer fellowships for students and teachers, science and career days, science fairs, noncredit science courses both for students and for teachers, plant and laboratory tours, science and service clubs, career information, vocational guidance programs, seminars and workshops, speakers bureaus, supplementary teaching materials, and other programs designed to stimulate the interest of students in scientific or technical careers.[21]

Cooperative education programs, such as that of Antioch College in Ohio, where the student alternates between nine months in school and six months on the job, allow a higher education to many students for whom college would otherwise be impossible, and also provide industries such as General Motors and du Pont with a highly satisfactory and successful recruiting program. By hiring the student ~~for~~ six-month periods, they are often able to recruit him after graduation. As Arthur F. Hartford, Jr., of du Pont Co., says, "Recruiting is highly competitive these days, and a 25-percent to 30-percent acceptance rate is average. When you can run at a 50-percent average with people whose performance you've already seen, that's pretty darn good." The du Pont Co. recently increased its hiring rate of cooperative program students from 138 in 1963 to 180 in 1964. This program provides a dramatic example of the benefits to be derived by students, industry, and school by such cooperative endeavors.[22]

Vocational guidance programs may play an important part in stimulating the student to further education, although of course the role of the vocational counselor is not that of special pleading for a specific occupation, but of aiding the student in reaching an occupational decision that will make maximum use of his interests and abilities, and will be of maximum satisfaction to him.

As W. Donald Vaughan, director of guidance of the Centennial Joint Schools, Johnsville, Pennsylvania, states, the counselor's job is not [only] to provide the information on which excellent choices are made, but . . . to stimulate the pupil toward thinking independently about choice and the consequences of choice. Information becomes a means and not an end. This is the method of self-discovery. This is disciplined choice concerned with antecedents and consequences . . . Counselors must help students set high goals of achievement and then help them in the attainment thereof. The counselors must aid in motivating pupils."[23]

Self-exploration and self-understanding should become less distinct from occupational exploration; the provision of a framework or a picture in which the student can envision *himself* at work, taking into account his knowledge of his own capacities and interests in seeking an appropriate level of occupational choice, is the goal of the vocational counselor. John Holland[24] describes level of occupational choice as intelligence plus self-evaluation, where self-evaluation is a function of socioeconomic origin, need for status, and self-concept. Self-knowledge, the ability of the individual to discriminate among potential environments in terms of his own attributes, influences the accuracy with which he makes an occupational choice. It is for this reason that it is important that the vocational guidance counselor provide a picture of an occupation in which the student may see himself at work, rather than merely supplying information about jobs.

It is in the field of vocational guidance that the theories of occupational choice, as previously discussed, most often find practical application. Most current vocational counseling methods, however, apply static, passive techniques involving reading and hearing about various careers, rather than giving active, interested high school students the opportunity of firsthand observation. Followup programs after career days provide one method of allowing such active, participating observation. In Trenton, New Jersey, students from Notre Dame High School were invited, following a talk on "The Chemistry of Metals," to visit a metallurgy laboratory where everyday problems in industrial metallurgy were demonstarted and solved. An informal luncheon allowed students to question the laboratory personnel, and to receive an accurate, firsthand impression of the duties and satisfactions to be found in metallurgy as a career.

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[20] James G. Harlow, "Oklahoma Frontiers of Science Program," *Ibid.*, pp. 17–20.

[21] Glenn W. Giddings, "Local Industry—School Cooperation in Science Instruction," *Ibid.*, pp. 11–15.

[22] Neil Ulman, "More Colleges Arrange On-the-Job Training Between Terms of Study," *The Wall Street Journal*, Friday, February 12, 1965.

[23] W. Donald Vaughan, "Problems of the Public School Counselor and Some Possible Solutions," *Scientific Manpower, 1962*, pp. 39–43.

[24] John L. Holland, *loc. cit.*

A field study program at Burlington Senior High School, in New Jersey, provides a similar opportunity for 12 physics and chemistry students each month, when tours are conducted through the research laboratories of the United States Pipe and Foundry Co. Students report that these tours, together with occompanying demonstrations and lectures, have provided a concrete and realistic basis on which to choose or reject a vocation in science or engineering. Other industries which sponsor such tours and demonstrations include Johnson and Johnson, Hoffman-La Roche, and Bell Telephone Laboratories.[25]

Work experience and summer science programs are other means by which students may be interested in science and the work of scientists. Programs in which the guidance counselor works closely with teachers, parents, or business and professional people are likely to provide students with vital experiences related to vocational motivations and decisions, experiences on which they may base informed and thoughtful occupational decisions.

Techniques of recruiting students into specific occupations are narrower and less generally applicable than those discussed above. All the techniques described below, however, might easily be adapted to recruiting in the mental health fields.

Recruiting techniques in the field of librarianship are aimed largely at college students; this emphasis, while at best a stopgap measure, does serve the purpose of filling immediately a certain number of vacancies and, to the extent to which it has been successful, deserves attention. Again, any of the specific measures taken in the field of librarianship would be easily adaptable to mental health recruitment.

Recruitment of students into specific occupations is achieved through such efforts as improvement of public image through publicity, talent searches, workshops for the gifted, scholarships, and preprofessional programs. Librarianship, which suffers from a severe professional manpower shortage, has been particularly active in these areas. For example, the preprofessional program of the Enoch Pratt Free Library in Baltimore, Maryland, offers the student a job as a practical aid in the decision of whether or not to study librarianship. This program has proved to be a valuable recruiting device, since 16 of the 44 preprofessionals who participated in the program during its first eight years went on to become librarians. Each of the 44 students signed a contract for one year, under which they helped fill staff vacancies in the library. These students were given a sampling of professional duties in librarianship on which to base their career decisions. The resultant reduction in staff turnover has been attributed to the work experience gained during the period of apprenticeship.

Besides recruiting through the preprofessional program, this library conducts a weekly television show on which a staff librarian appears with guest celebrities, conducts panel discussion and question-and-answer periods, shows films, and gives recruitment talks stressing exciting elements and opportunities in the field. In addition this librarian addresses groups of young children on the subject of library careers. Audience response has been good, since the children know the staff member as a television personality. The recruitment program of this library also offers five scholarships, two of $1,500 and three of $1,000, which are awarded to librarianship students who promise to work for at least two years after graduation. The overall program has been reported as very successful.[26]

Many other libraries also offer scholarships, loans, and part-time work. The Detroit Public Library, for example, hires college graduates on a full-time basis, but makes provisions for them to attend library-science extension courses at the University of Michigan, a program leading to eligibility for professional appointment after four years.[27]

As a temporary solution to an immediate problem, the University of Florida at Gainesville has a program in which students work 15 hours a week at the library while studying for their master or doctorate degrees in other fields. Salary for the nine-month period is $1,400; a further advantage of exemption from out-of-state fees is offered.[28]

Another recruitment technique utilized quite often by librarians is that of distributing occupational information to students through career days. For example, in 1956 a St. Louis library launched a massive letter campaign, with the result that 30 schools asked that librarianship be represented in their respective career days. Attention was drawn to the library booth by means of a life-sized mannequin, slides, photographs, colorful posters and leaflets, and guest celebrities. The library staff was enthusiastic over the results, as many students inquired for detailed career information.

This library also organized a library tour and discussion period for 46 of the top educators in the area, in order to encourage them to publicize librarianship, and to disseminate information, in the form of pamphlets, articles, books, and posters, among their students. In a small college where this program was carried out, a guidance counselor saw, in one term, 32 students who were interested in librarianship as a career.[29]

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[25] Richard B. Scheetz, "Implications of School-Industry Cooperation for School Guidance Programs," *Scientific Manpower, 1962,* pp. 35–37.

[26] Anon., "Instituting a Pre-Professional Program," *Library Journal,* Vol. 81, No. 12, June 15, 1956, p. 1587; and Redmond Kathleen Molz, "The Pre-Professional Program From Three Points of View," Vol. 4, No. 3, November 5, 1957, pp. 2942–2944.

[27] Harold S. Sharp, "Recruiting From Within," *Wilson Library Bulletin,* Vol. 32, No. 5, January 1958, pp. 352–353.

[28] *Ibid.*

Recruiting pamphlets in the health and mental health fields are published by private industry, by professional organizations, and by government agencies such as the National Institute of Mental Health. Pfizer Laboratories and J. B. Roerig and Co., for example, have prepared, in cooperation with the Council on Medical Education and Hospitals of the A.M.A., a booklet entitled *Tomorrow's Physicians*,[30] directed at the high school student and designed to "help you decide whether you want to make medicine —with all its challenges and all its opportunities— *your* career." This pamphlet answers questions regarding the opportunities and rewards of medicine, as well as practical aspects of education and finance.

Another example of this genre is *Careers in Mental Health*,[31] published by the NIMH, which gives information regarding professional requirements, duties, and salary ranges for the four core mental health professions of psychiatry, psychiatric social work, psychiatric nursing, and clinical psychology.

Such attempts to publicize mental health careers and other professions, and to provide career information to the student, while doing little to solve the basic problems of the manpower shortage, may be important in aiding the immediate decisions of individual students. Therese Rauner has done an occupational choice study which tested 186 college women on their knowledge in their chosen fields; it was found that only 65 percent had even a fairly good understanding on which to base a realistic occupational decision. The study concludes that students need information about professional organizations, opportunities for advancement, and earning potential. Distribution of information to all levels of students was considered necessary, since no relation was found between mental ability and the amount of knowledge a student had of a given occupation, or between amount of knowledge and scholastic achievement.[32]

Although the primary purpose of most volunteer programs in the health fields is to assist the professional in attending the patient, such programs have also been demonstrated as valuable recruiting devices, since volunteer work experiences often aid in the process of vocational choice. It is even possible that the public image of a profession might be altered by volunteers and ancillary personnel, whose own views had undergone a radical change through their work experience in a particular field, with the result that more students would be motivated to enter that field.

In 1953, a unique volunteer "companion" program was initiated in the Boston area in which Harvard and Radcliffe undergraduates worked one hour a week throughout the school year with mentally ill patients. At first, emphasis was placed on the recruitment of college students, but later the program was extended to adult volunteers, with the idea of correcting some of the faulty attitudes held by the public toward mental illness. To determine the effectiveness of the program volunteers were given a pretest and a posttest. Marked differences were found between the two tests as to attitudes and amount of knowledge concerning mental illness and mental health workers, and a number of student volunteers shifted their majors or occupational goals as a result of the companion program.

The therapeutic impact on the patients was positive, as witnessed by the fact that 20 percent of the 55 chronic patients who had been hospitalized at least a year were sufficiently benefited by the case-aid program to be able to leave the hospital, while clinical improvement was apparent in some of the others. A closer link was established between the community and the hospital, and the youthful, enthusiastic volunteers have produced an improvement in staff morale. The program has spread to nine local colleges, with 2,000 students participating to assure patients of case-aid treatment five days and three evenings a week. Dr. Milton I. Greenblatt, in his report on this project, has stated that the number of students entering the mental health professions from the volunteer program is double that which could otherwise have been expected.[33]

Some 87 colleges around the country now have functioning campus programs of volunteer work with the mentally ill, and it has been established that volunteer work, in addition to its value to the overworked professional and the satisfaction it affords the volunteer, can be an important recruiting device.

One important area of endeavor in alleviating the manpower shortage is that of recruiting, training, and utilizing inactive or retired personnel. In order to avoid overlap, this category of personnel is discussed in the background paper on utilization.

One of the most comprehensive programs currently in operation to relieve the manpower shortage in the mental health fields is that of the Kentucky Mental Health Manpower Commission. This program can be divided into three areas: (1) development, which includes (a) stimulating youth to select careers in mental health work, (b) increasing the proportions of physicians, psychologists, social workers and nurses who specialize in mental health careers, and (c) exploring the possibility of a new kind of mental health therapist; (2) utilization, which is discussed elsewhere in this volume; and (3) recruitment and retention, which includes (a) encouraging trained mental health specialists to enter public service in Kentucky and (b) increasing the service tenure of mental health personnel. The program, as outlined in *Manpower for Mental Health*, by the Kentucky Mental Health Manpower Commission, offers a long-range career motivation project, as well as short-term projects concerned with physicians, psychiatrists, psychologists, social workers, nurses, and a mental health training program.

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[29] Clara Brown Webb, "Recruiting in St. Louis," *Library Journal*, Vol. 83, No. 22, December 15, 1958, pp. 3472–3475.

[30] *Tomorrow's Physicians*, Sponsored by Pfizer Laboratories and J. B. Roerig and Company, Prepared in cooperation with the Council on Medical Education and Hospitals of the A.M.A.

[31] *Careers in Mental Health: Psychiatry, Psychiatric Social Work, Psychiatric Nursing, and Clinical Psychology*, U.S. Department of Health, Education, and Welfare, Public Heatlh Service.

[32] Therese M. Rauner, "Occupational Information and Occupational Choice," *Personnel and Guidance Journal*, Vol 41, No. 4, December 1962, pp. 311–317.

[33] Milton Greenblatt and David Kantor, "Student Volunteer Movement and the Manpower Shortage; Cooperative Half-Way House," *American Journal of Psychiatry*, Vol. 118, No. 9, March 1962, pp. 809–814.

The career motivation work-study project, designed to recruit into mental health professions capable high school students who had not planned on college because of financial or motivational reasons, will require several years of operation before effective analysis of data can be performed. It is hoped, however, that three major objectives will be accomplished: (1) the development of manpower potential not currently tapped by other professions; (2) the provision of a continuous, organized system of recruitment; and (3) the development of a means of assessing and crystallizing individuals' professional desires prior to the acquisition of formal training.

Although the success of the program will be decided by the increase in the number of students who decide on careers in the mental health fields, it is hoped that considerable knowledge of career motivation and choice will be gained through the study of such social factors as socioeconomic environment and educational opportunities as they influence individual career decisions.

The following lengthy quotation describes the goals and procedures of the proposed program, which appears to be quite comprehensive in scope:

> "(1) By working with school counselors, clubs, organizations and individuals, the program would provide information on health and mental health careers to interested students. Books, films, pamphlets and speakers would be supplied. Career consultation could be provided for high school counselors through workshops, institutes and individual guidance. Personal followup, individual counsel, and vocational guidance for students expressing an interest in the field would be available.
>
> "In addition to the emphasis on career recruitment which would take place in school systems, the project will make an effort to encourage youth to enter the field by working with various community and state groups and organizations (church clubs, civic organizations, professional groups and associations) to increase public awareness of and concern for health and mental health problems and professional health careers in general.
>
> "(2) Through careful counseling and selection, groups of students would be chosen to take part in a summer, part-time on-the-job training program in a hospital, clinic, or similar facility. Practical experience in the training program would present students with an opportunity to become acquainted with problems and rewards of certain careers and would assist them in making career decisions. The following would be involved in the training program: an orientation on mental illness and health, on various health careers and on mental health programs; an orientation on the hospital and/or clinic program; and direct on-the-job experience with academic preparation and reports.
>
> "(3) After completing the training program, counseling, guidance, and other assistance would be made available when possible. An important phase of the project would be the establishment of a central repository of information on scholarships, fellowships, stipends and other financial support which is available for students seeking a college education. As college work progresses, employment of students could be considered. A necessary integral phase of the program would be a followup study to determine reasons for 'drop-outs' and 'career changeovers.'
>
> "Data and information on socioeconomic environment, educational and cultural background, social circumstances, and other factors which influence and set the stage for career decisions will be studied. Various factors, such as effects of school consolidation on career choices, deep-seated educational interest of communities, potential use of Negro manpower, and influence of parents on vocational choices, will be ascertained, analyzed, assessed and described."[34]

Perhaps the most important area of recruitment is that dealing with the untapped manpower pools of Negroes and other minority groups, women, and the socioeconomically underprivileged. The special problems presented by these groups, however, are dealt with both in Lawrence Kubie's article on manpower pools and in the background paper on utilization.

Conclusion

In order to guide the actions of an individual, it is necessary to understand the basis of those actions. A thorough knowledge of the process of occupational choice, which is the object of the theories outlined in the first part of this paper, can enable the recruiter or occupational guidance counselor to perform his function more efficiently and with greater benefits for the individual, as well as for the professions now suffering from a crucial shortage of trained manpower.

In recruiting for the mental health professions, two basic actions are necessary. The recruiter must ensure that the grammar and high school student is motivated to engage in the types of activities, such as taking academic courses, that will allow him to enter college, and that the student makes no final career decision until he is acquainted with the requirements, possibilities, and opportunities of the mental health field.

In other words, the final answer to the manpower problem in all fields appears to be that of increasing the total potential manpower supply, beginning in grade school, and then limiting active recruitment to career information and orientation and personal and vocational guidance.

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[34] Kentucky Mental Health Manpower Commission, *Manpower for Mental Health*, pp. 4–5.

UTILIZATION

Introduction

Efficient utilization of mental health manpower and facilities is the third of the three inextricably linked aspects of the problem of the manpower shortage in the mental health field; it is virtually impossible to separate the consideration of utilization from that of recruitment or of education. An attempt, however, has been made, and this paper will deal with three main areas within the basic problem.

The first area of consideration is that of utilization of personnel already active in the mental health field. These personnel include psychiatrists, psychologists, psychiatric nurses, psychiatric social workers, and other hospital personnel such as nurses' aides and orderlies. A subgroup of this category includes those persons involved tangentially in the mental health field; this group includes volunteers, physicians in general practice, ministers, lawyers, and any others who might possibly act as a liaison between the mental patient and the services which benefit him, or between the mental patient and the community.

The second area of interest to be investigated, and without question the area of greatest importance to all professions which are experiencing a manpower shortage, is that of untapped manpower pools. These resources include all individuals with the *potential* of joining the ranks of the professional in any field. These individuals are often the youth of minority groups such as Negroes and other socioeconomically underprivileged or undereducated groups.

The third area dealt with is that of mechanical or timesaving devices, from central supply carts to computers, to increase efficiency of utilization of personnel and facilities.

Before embarking on such a discussion, definition of a few basic terms is necessary. Within the framework of this paper, efficient utilization includes those practices which afford the greatest possibilities for the application of the energies and capabilities of personnel in a given field. Efficiency is the application of these energies and capabilities so that they afford the greatest amount and best quality of service to the largest number of people in the shortest amount of time.

As mentioned above, considerable difficulty is encountered in attempting to determine boundaries for inclusion of material in the background papers. A large amount of overlap exists in particular between the subjects of utilization and education. This difficulty has been resolved with only a brief mention of in-service training programs in this paper, on the grounds that such programs are aimed directly at increasing efficiency of utilization of established personnel.

A final difficulty has been a lack of studies actually carried out on utilization. As Peter G. Meek, executive director of the National Health Council, wrote, "Utilization studies are difficult, controversial, and threatening because redefinition, relaxation, or change in long-accepted standards, and departures from traditions may be indicated in the findings."[1] There is, however, no dearth of recommendations and proposals for studies which various individuals and organizations feel should be carried out, and practically every aspect of the problem of utilization is open to investigation.

Utilization of Existing Personnel

The central profession in the treatment of the mentally ill is, of course, psychiatry. Since the student of psychiatry must be drawn from the ranks of the medical school, any attempt to recruit directly into the profession of psychiatry can only increase the shortage in other areas of medicine. In order to increase the number of psychiatrists, therefore, it will ultimately be necessary to increase the total population of individuals seeking a college education. This problem of untapped manpower pools will be discussed elsewhere in this paper. The problem to be discussed at this point is that of better utilizing available psychiatric manpower. Daniel Blain, in "Manpower Studies with Special Reference to Psychiatrists,"[2] lists seven ways of doing so:

"1. By redefining the functions of psychiatrists, general physicians, psychologists, nurses, social workers, and others;

"2. By reassigning duties and responsibilities of these groups;

"3. By delegating responsibilities from the more highly trained to the less highly trained with adequate supervision;

"4. By modifying organization structure and lines of authority to increase administrative efficiency;

"5. By making greater use of social forces and persons from outside [volunteers] and groups to assist in treatment;

"6. By increasing the skills of less highly trained personnel through a vastly increased in-service training;

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[1] Peter G. Meek, "Health Manpower," *Hospitals, Journal of the American Hospital Association,* Vol. 39, No. 7, p. 72, April 1, 1965.

[2] Daniel Blain, M.D., Howard Potter, M.D., and Harry Solomon, M.D., "Manpower Studies with Special Reference to Psychiatrists." *American Journal of Psychiatry,* Vol. 119, No. 9, pp. 791–797, March 1960.

"7. By decreasing our reliance on residential treatment in favor of day hospital service with patients living at home, or in foster homes, or other simplified arrangements."

The final point listed above is indicative of a major trend in psychiatric treatment, and may precipitate new patterns of utilization of psychiatrists' time in terms of shorter therapy, more extensive use of group therapy techniques, preventive therapy, and chemotherapy. Fuller discussions of these topics may be found in the background papers on community mental health centers and on technology.

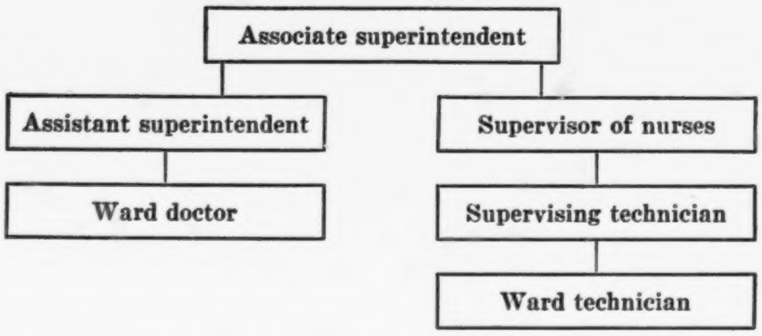
In spite of the fact that the trend is toward community mental health care, the state hospital and its staff still play a major role and a vital one in the care of the mentally ill. More efficient utilization of the psychiatrist and other personnel in the state institution was the subject of an informal conference held with six doctors, all employed in California state mental hospitals, with between 2 and 20 years' experience in state service. Three of the doctors are board certified psychiatrists, and all are experienced in the care of mental patients.

The purpose of this meeting was not to establish the basis for a statistical survey, but to pinpoint some of the complaints voiced by doctors in state service and to attempt to arrive at some possible solutions to their problems, with the eventual goals of increasing the numbers of competent doctors attracted to the state service and of decreasing the turnover of professional personnel who find the present situation unworkable. It is believed that the guaranteed anonymity of the participants contributed greatly to the revealing nature of their comments; it is further believed that these comments are typical of the situation as it exists, and are not merely idle or trifling complaints.

The following eight points summarize the results of this conference and present specific suggestions for maintaining a stable medical staff in mental hosiptals.

1. Emphasis should be placed on creating job satisfaction for physicians now in service rather than on out-of-state recruitment, if only because any psychiatrist who *is* recruited will be entering the structure which already exists. However, a recruitment program should be designed to attract recent medical school graduates through affiliate training services offered by the state hospitals to local medical schools. A percentage of these medical students will be attracted to state service if they find the doctors with whom they work while in training receiving gratification from their work.

2. One of the greatest problems in the area of personnel policy lies in the realm of defective communication. One aspect of this problem, parallelism, has been diagrammed by Dr. Edward J. Stainbrook in this fashion:



In the mental hospital, even though the ward doctor leaves orders for the ward technician, the technician is accountable, not to the doctor, but to a supervising technician. As a result, there are occasions when the doctor is, in effect, receiving orders from nursing personnel, or when orders pertinent to the psychiatric treatment of the patient may be given through nursing service without the knowledge of the ward doctor. Another result of this system is that performance ratings of technicians are completed without consulting the ward doctor, so that in striving for a good performance rating, the aim of the technician is to impress the supervising technician, and not the ward doctor. One psychiatrist noted that, "If a supervising technician comes on the ward during a doctor's ward rounds, it is customary for the ward charge to desert the doctor in order to make rounds with the supervisor." Another effect of this system is that ward doctors are not consulted about changes in ward personnel, which may create problems in overall ward management.

It was speculated that significant improvement might very well result if superintendents and administrators of the hospitals would hold organized staff meetings, with a ward doctor presiding, where the staff doctors could discuss their problems and present their recommendations for changes.

It was also suggested that personnel patterning and chains of command be revised so that the doctor has more direct authority over the technical and nursing personnel who staff his wards.

3. There is a great need for a revision of promotional procedures, with more emphasis on emotional stability and knowledge of administrative techniques and personnel management for administrative promotions, rather than solely on board qualification. Psychiatrists who are predominantly interested in clinical work should have better promotional opportunities or, at least, recognition for seniority. (Under the present system, according to one of the board-certified psychiatrists, a doctor who prefers to do clinical rather than administrative work has very limited opportunities and is likely to have the same title and pay scale after 30 years of service as after five years.)

In-service training programs should be expanded so that physicians may be given on-the-job training that would qualify them for promotion, with board qualifications required for administrative officials in the higher echelons. With such a system, the state would be setting its own criteria for promotion rather than relying entirely on board qualifications which are not primarily designed to qualify the psychiatrist for state hospital work.

4. A survey should be made of paperwork required of ward doctors to determine what might be eliminated, revised, or completed by stenographers.

5. Extra remuneration or compensatory time should be provided for all overtime work.

6. A great deal of discussion has centered around pay scales, but the doctors in this group generally agreed that, even though their salaries average between half and two-thirds the amount they could make in private practice, this discrepancy is not a cause of as much dissatisfaction as might be expected, perhaps because the individual is aware of the pay scale before entering the state system.

7. One source of real dissatisfaction appears to be the difficulties encountered by the doctors in acquiring sufficient drugs to insure adequate treatment of their patients. As one psychiatrist said, "Doctors in the state system work under the tremendous strain of having such a limited drug budget that this alone is enough to exhaust one at the end of the day . . . I would cheerfully kick back part of my salary if I could be free of the burden of having to connive and manipulate to get medication for my patients." Another admitted that his ward had been surviving on donations from the major drug companies.

8. Finally, it was stressed that, while many of the sources of dissatisfaction experienced by the psychiatrist in state service may seem petty or trivial, a minor frustration every half-hour adds up to a most uncomfortable working day, and that a load of accumulated trivia must eventually grow unbearable. Therefore, it was emphasized, no complaint, at any level, should be ignored or dismissed as unworthy of attention.

Judging from the volume of literature on the subject, nursing seems to be the most thoroughly researched and investigated of any area in the health fields, perhaps because, as reported by the American Nurses Association,[3] at the beginning of 1965, one out of every five nursing positions in the nation's 7,100 hospitals was empty. That investigation of the utilization of professional nurses is necessary to the solution of the problem of the shortage is stressed by the Surgeon General's Consultant Group on Nursing in its report, *Toward Quality in Nursing*,[4] in the following passage:

> "Available nursing personnel are not being fully utilized for effective patient care, including supervision and teaching as well as clinical care.
>
> "To aid hospitals in improving utilization of nurses, the group recommends that federal funds should be provided to conduct demonstrations, experiment with new and improved methods, and train nurses in use of these methods. Federal funds should be made available also, the group suggests, to expand consultative nursing services and other services designed to improve the quality and quantity of nursing care."

Results of a conference conducted by the Southern Regional Education Board point to several recommended changes in the organization of the profession. Miss Lavonne Frey, chairman of the conference of psychiatric nurses, states: "There is a tendency to hang on to the traditional idea of the nurse and what the nurse should be doing . . . In many of our psychiatric hospitals our nurses have little time to do nursing . . . Nursing is criticized because the nurses aren't doing nursing. But on the other hand do those in administration give them time to do it?"[5]

During this conference, many suggestions were made for changes needed to improve the utilization of nursing personnel in mental health, and actions recommended for bringing such changes about.

First, the need for clarification of the role of nursing in hospital maintenance and administration was pointed out, as well as the need to clarify the duties of various nursing positions within nursing services as a whole. The psychiatric nurse, to be utilized to the fullest extent of her special capacities, it was agreed,

> ". . . should focus on the patient's needs for recognition, acceptance, understanding, support, satisfactory experience in living, remotivation, feeling of belonging, and protection from psychotic behavior which could be damaging to his self-respect. In addition . . . the nurse's responsibility extends to interpreting the patient's behavior to relatives; to followup, since the patient still has the same needs after discharge; and to educating the community."[6]

Recommendations based on the above information included suggestions for several studies, such as a comprehensive study, to be undertaken by the A.N.A. and the N.L.N., to determine the categories of nursing personnel needed for all aspects of mental health care. Another suggestion involved the use of S.R.E.B. as a clearinghouse for available information on the role of the practical nurse, and a study of that role in relationship to medical, surgical, and geriatric units.

Second, it was noted that changes are needed in the organization of administration of nursing services. For example, it was recommended that administrators in psychiatric hospitals be encouraged to provide nursing administration by professional nurses with clinical competency to direct nursing service on each tour of duty. Participants in the conference also emphasized the need for thorough review of personnel policies to ensure that they provide for opportunity for professional growth through such means as attendance at professional meetings; competitive salaries; allowance for lateral promotion, recognizing the purposeful activity of the individual; and creation of an environment which motivates nursing personnel to assume independent responsibility for developing more creative and imaginative programs of nursing care.

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[3] Richard D. James, "R.N. Emergency: U.S. Hospitals Employ Varied Tactics to Ease Severe Nurse Shortage," *The Wall Street Journal*, Vol. 72, No. 5, Friday, January 8, 1965.

[4] *Toward Quality in Nursing, Needs and Goals*, Report of the Surgeon General's Consultant Group on Nursing, PHS Publication No. 992, Department of HEW, February 1963. Quoted in *Hospitals, Journal of the American Hospital Association*, Vol. 37, No. 6, p. 26, March 16, 1963.

[5] *Nursing Personnel for Mental Health Programs*, Report of a Conference Sponsored by the Southern Regional Education Board Program in Mental Health Training and Research, p. 9, March 1958.

[6] *Ibid.*, p. 11.

Third, changes are needed in intradisciplinary communication, both within the nursing services of various types, and particularly between professional nurses and licensed practical nurses. It was suggested that a study be initiated to establish a systematic pattern of communication between a state hospital and a public health agency, with representatives of that agency included in the interdisciplinary planning of therapeutic programs for patients.

Fourth, there is a need for more interdisciplinary activities with nurse participation, in the form of an interdisciplinary team approach to mental health; and more use should be made of the nurse as a resource person and consultant.

Several further recommendations are made in the related fields of training and recruitment of nursing personnel. This study provides a comprehensive and valuable outline of many of the problem areas in psychiatric nursing, and suggests possible methods of alleviating these troublesome situations. While little work has actually been carried out along these lines, a good basic understanding of the problems is at least a step toward their solution.

One approach to the more efficient utilization of nursing personnel is the attempt to decrease the number of nursing hours needed per patient, without lowering the quality of nursing care. Eugene Levine,[7] in his study of nurse staffing in hospitals, examines the impact on nurse staffing of some factors not previously considered, and of the effect of administrative efficiency on staffing. Federal hospitals, he finds, average 53.5 nursing personnel to 100 patients, while in nonfederal hospitals this ratio is 110.4 to 100. The questions raised by these figures are obvious: What are the factors which enable the federal hospital to operate with one-half as many nursing personnel per patient as the nonfederal hospital? Do federal hospitals provide less adequate service because of lower staffing ratios? To what extent is the lower nurse/patient ratio in federal hospitals indicative of greater administrative efficiency? The answers to these questions could be useful in two respects, according to Dr. Levine.

> "First, if the specific factors that influence nurse staffing could be delineated, some additional light might be shed on the problem of establishing the appropriate relationship between levels of nurse staffing and patient welfare. Second, if administrative efficiency does contribute to lower staffing in the federal hospital, some guidelines might become available to nursing administrators for achieving more effective staffing of their departments."

In investigating these questions, one federal and two nonfederal hospitals, matched as to size and type of service, were studied. Findings of the study were that the specific features of the federal hospital that make for greater administrative efficiency, and which might be adaptable to nonfederal hospitals, were:

> "1. Simplified organizational structure using larger and more homogeneous bedside nursing units;
>
> "2. Use of flexible pattern of assignment of personnel which will more closely match staffing to patients' requirements;
>
> "3. Establishment of practices that relieve the nursing department of essentially nonnursing responsibilities, such as the use of ward clerks;
>
> "4. Employment of personnel with sufficient experience and educational preparation to be capable of making independent decisions in their work;
>
> "5. Maintenance of an attractive personnel system to promote stability of staff;
>
> "6. Establishment of 'organizational memory' through documentation of objectives, policies, procedures, and accomplishments, to facilitate coordination and continuity of operations;
>
> "7. Use of structured channels of communications such as committees and conferences to exchange ideas and information;
>
> "8. Encouragement of participation in administrative processes of all members of the nursing department;
>
> "9. Participation of the nursing department in the process of budgeting, which provides an instrument for systematic planning and gives insight into the financial impact of the operations of the nursing department; and
>
> "10. Use of a continuous system of reappraisal to seek ways of improving utilization of personnel."

It is estimated that the implementation of the above suggestions would mean a saving of approximately 20 personnel per 100 patients in the average nonfederal hospital, or a total theoretical work force saving of 90,000 nursing personnel across the nation.

> "The conclusion to be drawn is not that these personnel are unnecessary and that their positions could be eliminated with improvements in administrative efficiency. Rather, the conclusion is that, with more effective use of the skills of nursing personnel currently employed in hospitals, productivity could be increased to help close the gap between nursing needs and supply. Thus, while it is true that hospitals are understaffed, some of the shortage probably lies in failure to make the most productive use of presently employed personnel."

One large reservoir of potential professional nursing personnel is the group of inactive nurses, many of whom have left the profession in order to establish and raise their families. It is estimated that, largely because of the responsibilities of marriage, the average nurse spends a total of only three years in actual practice of her profession.[8] A study of the inactive nurse, conducted in 1964 by Dorothy Reese, Stanley E. Siegal, and Arthur Testoff,[9] points out that, "The nurse/population ratio in the United States increased from 249 per 100,000 in 1950 to 297 per 100,000 in 1962, even though the rate of graduation from basic schools remained almost constant at 30,000 a year. The increase was largely due to the return of inactive nurses, many of whom work part time." Of 10,141 inactive nurses in 12 states who responded to a questionnaire, 44 percent planned to return to active practice, and 55 percent did not plan to return; the remaining 1 percent did not answer this question. If these percentages are projected to the total inactive nursing population of the United States, from 74,000 to 131,000 might return, over a period of several years, to full- or part-time employment.

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[7] Eugene Levine, "Nurse Staffing in Hospitals," *The American Journal of Nursing*, Vol. 61, No. 9, September 1961.

Obviously, however, the nurse who returns to her profession after 20 years devoted to raising a family will not have been able to keep abreast of the drastic changes in patterns of nursing care due to rapid medical and scientific progress. Retraining programs, therefore, are necessary to the maximum utilization of nurses returning after a period of inactivity. For example, David E. Olsson, administrator of San Jose Hospital, describes an "active reserve" program for registered nurses.[10] This program is designed to help nurses who have been out of the field for five years or more to acquaint themselves with new techniques in medicine and nursing. Lectures and written information are presented, and, in addition to classroom work, the reserve nurses are given the opportunity to keep in practice with actual bedside nursing at least one day a month plus one full week each year. The result of this program, which averages about 60 participants, is the addition of the equivalent of eight full-time nurses. In addition, approximately two reserve nurses each month become full- or part-time regulars. And it has been noted that these nurses are exceptionally mature and dedicated, having behind them the experience of raising their own families.

Other methods of efficient utilization of nursing staff at San Jose Hospital included the hiring of nursing aides, ward clerks, and other auxiliary personnel; provision of tape recorders for daily reports; and salary raises.

In Oklahoma, a statewide refresher program [11] is helping to renew the confidence and enthusiasm of many inactive nurses who desire to return to service, but who are apprehensive because of marked changes in method and equipment. Teachers for the program are RN's trained by the University of Oklahoma to plan a refresher course tailored to the needs of the area in which she will be teaching. Inactive nurses are recruited for the course with the help of the district nurses' association, local hospitals, news media, and civic officials. Physicians, technicians, and hospital staff members are invited to participate in the program, and training materials are distributed by the University of Oklahoma. Sixty to 120 hours of intensive classwork, plus homework and clinical experience, are given in the six- to eight-week course. Over 80 percent of the graduates of the course, which is rated as much more effective than on-the-job training alone, return to active practice, and it is estimated that the program is producing more active nurses than are in the average graduating class from Oklahoma's 11 schools of nursing.

In addition to refresher courses, some hospitals, such as the Latter-Day Saints Hospital in Salt Lake City, operate day-care centers where staff nurses may leave their children for a nominal charge.[12]

Techniques for combating the nursing shortage include the recruitment of nurses from abroad. The Santa Rosa Medical Center, in San Antonio, Texas, for example, has established a recruiting program in Great Britain, from which they hope to gain up to 50 new nurses a year.[13]

One program for more efficient utilization through new management techniques is the "unit management" system of Beth Israel Hospital in Boston, designed to relieve nurses of nonnursing chores. "The hospital created five teams, consisting of a manager and two aides, and assigned each team to a 70- to 90-bed unit. The managers and their aides first took over responsibility for stocking all medical supplies in their units, scheduling patients' treatments, . . . distributing linen, water, and food, and supervising visitors. . . . The team will [also] assume many of the chores at nurses' stations, including posting doctors' orders and keeping medical records on patients." [14]

Results of the unit management program have been encouraging, according to Beth Israel officials, although full implementation will not be achieved for another two years. It has been noted, however, that the volume of patient complaints has dropped by 20 percent.

Salary increases and bonuses have proved effective in hiring and retaining hospital personnel. Louisville General Hospital, for example, cut its nursing vacancies from 25 to 10 by raising the beginning salary of a general duty nurse from $285 to $325 a month.[15] Measures of this type, of course, do little to increase the total manpower supply and are only temporarily effective.

One important way in which nursing services are being extended is through the use of part-time personnel; in 1962, there were 591 part-time general duty professional nurses per 1,000 full time. And these figures do not include on-call, or per diem, nurses.[16] Such personnel provide flexibility in meeting the staffing needs of the hospital; and part-time nurses may be available in areas of manpower shortages, where there are not enough full-time personnel to fill all the positions open.

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[8] David E. Olsson, "An 'Active Reserve' Program for Registered Nurses," *Hospitals, Journal of the American Hospital Association*, Vol. 37, No. 9, p. 43, May 1, 1963.

[9] Dorothy E. Reese, Stanley E. Siegel, and Arthur Testoff, "The Inactive Nurse," *The American Journal of Nursing*, Vol. 64, No. 11, November 1964.

[10] David E. Olsson, *op. cit.*, pp. 42–43.

[11] "Oklahoma Finds New Way to Ease Nurse Shortage," *Medical World News*, October 23, 1964.

[12] Richard D. James, *loc. cit.*

[13] *Ibid.*

[14] *Ibid.*

[15] *Ibid.*

[16] Arthur Testoff, Eugene Levine, Ph.D., and Stanley E. Siegel, "Analysis of Part-Time Nursing in General Hospitals," *Hospitals, Journal of the American Hospital Association*, Vol. 37, No. 17, September 1, 1963.

Use of part-time nurses, however, creates its own problems, causing administrative and communications problems, and interfering with continuity of patient care. Also, as pointed out by Kenneth M. Baker, in the *Medical Tribune* of October 5, 1964,[17] "The times during which inactive nurses were willing or able to work did not coincide with the times nursing coverage was most needed."

The use of nonprofessional nursing personnel and other auxiliary workers in the hospital, such as psychiatric aides, is increasing rapidly, a situation which throws new teaching and supervisory responsibilities onto the professional nurse, although it does decrease the amount of time spent by the nurse on nonnursing tasks. In *The Psychiatric Aide in State Mental Hospitals,*[18] a publication of the Manpower Studies Unit of the N.I.M.H., suggestions made by nurses for changes in the job of the aide are summarized. These changes include, in order of frequency: upgrading of the job, with more emphasis on professional responsibilities, few menial tasks, and fewer cases; more and better job training; improvements in pay or working conditions; and better staff arrangements.

Another study of this nature, one which seems to be quite comprehensive, is *Hospital Personnel—Report of a Personnel Research Program.*[19] This study, undertaken at St. Vincent's Hospital in New York, had the basic objective of determining how to improve employee job satisfactions and performance in order to improve patient care without increasing costs. Specific points of the program were:

> "1. An analysis of turnover, and experiments with procedures for reducing the loss of good employees;
>
> "2. The preparation of job descriptions, job satisfaction, and a realistic wage and salary schedule for all hospital employees;
>
> "3. An analysis of the problems involved in, and experimentation with methods to improve, recruitment and selection of hospital personnel;
>
> "4. Experimentation with supervisory development;
>
> "5. Surveys of changes in employees' attitudes toward the hospital and their jobs as a result of improved personnel practices;
>
> "6. Experimentation with techniques for improved internal communications."

Some of the conclusions, suggestions, and recommendations from this report are of interest in the study of the utilization of hospital personnel. For example, it was decided that the problem of excessive personnel turnover, which is expensive in terms of money, time, and efficiency, can be at least partially resolved through:

> "The preparation of a monthly report and analysis of turnover, which are shared with all department heads and supervisors.
>
> "Analysis of turnover in terms of department, job categories, particular jobs, and length of service to give meaning to the stability rate.
>
> "Classification of turnover as avoidable and unavoidable based on suggested criteria.
>
> "A determination of causes of turnover by means of postterminal mail questionnaires and interviews of employees upon completion of the probationary period and as indicated thereafter.
>
> "The education of supervisors regarding the scope of the turnover problem, methods of determining the causes of turnover, and methods of reducing turnover.
>
> "Studies of jobs with high turnover to arrive at characteristics which distinguish the stable, successful employee.
>
> "Computations of the cost of turnover, with quarterly and annual reports distributed to each supervisor indicating turnover, turnover rates, and direct costs, classified according to all turnover, avoidable turnover, the entire hospital, and each department.
>
> "The development and implementation of a plan of action based on the findings revealed in the analysis.
>
> "St. Vincent's Hospital further recommends the development of a nationwide reporting method so that area and national turnover statistics will be available regarding hospitals."

A scientific job evaluation system as the basis of a fair and consistent wage structure was one problem which was largely solved by this study. A performance evaluation form was also developed and tested. Used together, these two tools can help to insure that a full measure of work is received for wages paid. Also, the employment selection program was reviewed and revised on the basis that greater accuracy in predicting an applicant's success on the job, in terms of his performance and job satisfaction, would mean reduced employee turnover and hence more efficient utilization. This portion of the study encompassed three areas: (1) refinement of the application form and experimentation with weighted factors; (2) sharpening of techniques of interviewing; and (3) evaluation of six aptitude and ability tests as selection tools.

Selection of aides through pretesting has also been investigated by the Pennsylvania State Employment Service, which pretests, selects, and trains aides before they are given any actual hospital experience. Previously, it was found that aides did not adapt well even after three weeks of in-service training, with a consequent waste of many man-hours both by the new employee and by those who had the responsibility for training him. It was found, however, that pretested and trained applicants hired through the employment service were more receptive to learning new tasks, and that employee turnover in this group was sharply reduced. A definite correlation has been established in this program between the applicant's test score and his future job performance.[20]

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[17] "Nursing Shortage Cannot Be Filled by Part-Time Help," *Medical Tribune*, Vol. 5, No. 106, Monday, October 5, 1964.

[18] *The Psychiatric Aide in State Mental Hospitals*, U.S. Department of HEW, PHS Publication No. 1286, Washington, D.C., p. 51, March 1965.

[19] *Hospital Personnel—Report of a Personnel Research Project*, U.S. Dept. of Health, Education, and Welfare, Public Health Service, p. 123, October 1964.

Returning to the Personnel Research Project of St. Vincent's Hospital, mentioned above, one aim of the project was to "explore the possibilities of applying to a hospital some of the best management procedures developed for business and industry. The subject of supervision in a hospital was one which lent itself to this type of exploration." According to Mr. Ray Brown, former president of the American Hospital Association, "Many of the most important activities in the hospital utilize personnel with highly specialized training, and only individuals with equal technical training are competent to directly supervise their performance. This means that hospitals must choose their supervisors from the ranks of the technically tested but managerially untrained." [21]

In many hospitals, therefore, a working leader is designated as a supervisor, and often continues performing the same duties that he did before. With increasing demands on this category of personnel, it was decided to conduct a study with the objective of determining methods to improve the effectiveness of supervisors. Three separate studies were conducted to this end: (1) an analysis of the authority and responsibilities of supervisors; (2) a survey of supervisors' reactions to their authority and responsibilities; and (3) a repeat of the first study, conducted almost a year later. Among other conclusions, it was decided that "programs found to be effective in studying the role of supervisors in industry and business need thorough examination before they are applied to a hospital."

Specific recommendations growing out of the study were:

> "That surveying supervisors' perceptions of their responsibility and authority, their reaction to their responsibility and authority, and their understanding of the department heads' responsibilities is a valuable tool in diagnosing supervisory problems. Such surveys followed by remedial measures such as defined policies, conferences about responsibilities, and comprehensive job descriptions are an effective method of bringing about improvements in the performance of supervisory functions.
>
> "The survey technique with the feedback of findings and recommendations to supervisors, department heads, and to top administration is recommended to assure that change will be effected.
>
> "Surveys of the authority and responsibility of supervisors should be conducted annually as an indicator of any problems or changes which may occur."

Since high morale is usually found in conjunction with high production, it was decided that a study of the morale of nonsupervisory personnel might prove helpful in improving utilization in this group. For purposes of this study, morale was defined as "the attitudes of employees with respect to image of the hospital, job satisfaction, job security, supervision, and communication." These five aspects of morale were studied by means of an 11-question form, to be completed anonymously by all nonsupervisory hospital personnel. Scoring was done on a point scale of one to five, and the combined morale index was high; 80 percent of the employees rated morale as favorable or very favorable. Eight months later this figure had increased to 88 percent. "The findings also showed that while morale was consistently high, there were significant differences in some of the factors measured . . . and between departments.

"These differences were studied and explanations were found for them in the existence of policies and practices which negatively influence morale. Remedial measures were instituted."

The results of the morale survey revealed that one group, that of nurses aides, was significantly lower in morale than were other groups of nonsupervisory personnel. A further study employing a group discussion technique which provided immediate feedback was undertaken to attempt to locate and rectify sources of discontent among nurses' aides. These discussions revealed that, although the aides were conscious of and concerned with their responsibilities to the patient, their efficiency suffered because: (1) they received orders from too many people; (2) they were given work assignments which they felt they should not be expected to do; and (3) they interpreted the behavior of student nurses, and to some extent of regular nurses, as attacks on their status. In addition to a program designed to clarify the roles of the nurses' aide and the student nurse, the following suggestions, made by a committee of nurses' aides, are either being acted upon, or are under consideration:

> "Provide advanced training in the field of nursing.
>
> "Give more recognition for a job well done.
>
> "Allow aide to hear patient's report, so that she can better understand the nature of his illness.
>
> "Give aide professional recognition; this will make her more ambitious.
>
> "Engage two extra 'floats' (relief supernumeraries) for the hospital so that regular aides can pay more attention to their patients without so many interruptions.
>
> "Give a language course to all aides so they can talk to patients with foreign languages.
>
> "Permit nurses' aides to complete their assignments with patients.
>
> "Encourage hospital employees to treat aides more respectfully by addressing them by their last names.
>
> "Increase the nurses' aide staff.
>
> "Assign to nurses' aides the jobs of an aide, not those of a maid or porter; they are *nurses' aides*, not *hospital aides*!
>
> "Treat nurses' aides with more respect and politeness.

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[20] *The Psychiatric Aide in State Mental Hospitals, op. cit.*, p. 35.

[21] *Hospital Personnel—Report of a Personnel Research Project, op. cit.*, p. 45.

> "Let aides work a five-day week with 'floats' in between.
>
> "Allow aides to listen to reports without interruptions.
>
> "Do not ask aides to perform duties that have been previously assigned to others to complete."

The final major category of mental health personnel to be considered is that of psychiatric social worker. The role of the social worker in the mental hospital, and the variety of services he performs, are described by Frank M. Gaines, M.D., Commissioner of Mental Health, Louisville, Kentucky, in *Social Work Personnel for Mental Health Programs.*[22]

> "He may provide a screening service prior to admission; he may serve on the admission service in obtaining information from family and patient; but he is most important in establishing a sound relationship between family and hospital . . . He gives direct casework service to the patient and his family. He assumes a great deal of responsibility in discharge planning and aftercare, and . . . has assumed increasing responsibility for the setting up and administering of foster care programs [including] social group work."

In the outpatient clinic, "the clinic worker obtains histories, interprets clinic findings to families and patients, provides casework service, but, in addition, devotes more time to consultation with nurses, schoolteachers, social workers of other agencies, and spends additional time in mental health education in cooperation with various local community groups." All of the above duties are expected of the social worker, and one partial solution to the critical manpower shortage is described by Dr. Gaines, in the results of a time study of the social work staff in a Kentucky mental hospital. This study revealed that only 20 percent of social work time is spent in personal service to the patients and their relatives. A good deal of time was spent in related activities, such as correspondence and telephone conversations with relatives and other social work agencies, and in formal and informal staff conferences. A fair amount of time, however, was found to be spent in activities that can only be described as clerical, such as the typing of reports and records. It was suggested that some of the duties traditionally allocated to social workers be shifted to clerical personnel who do not have professional training, so that the social worker may concentrate on prerelease planning and aftercare, working in cooperation with other members of the mental health team, and with the patient and his family. The use of case aides in the mental hospital might also be a possible means of increasing the efficiency of the professional social worker.

Donald Brieland, in "The Efficient Use of Child Welfare Personnel,"[23] emphasizes that the tasks of professional and nonprofessional staff are often identical and that the professional social worker is overeducated for many of the tasks he is called upon to perform. He states further that inflexibility in staff usage stems to some extent from the idea that all tasks of case service should be performed by a person with maximum skill. Differential use of manpower is proposed as a means of providing more service more effectively, especially in assuring that tasks of a subprofessional nature are not regularly delegated to personnel with professional training. Dr. Brieland makes three specific suggestions to assist in the differential use of manpower: (1) the development of teaching methods, such as films and tapes of agency activities and interviews, for nonprofessionally trained staff members who have bachelor's degrees; (2) special training programs, including group consultations, for the worker who is isolated by distance or by county jurisdiction; and (3) the team approach, which provides for the close working together of professionally trained and subprofessional workers, with the responsibilities of each clearly defined by the agency.

Staffing and Staff Utilization in Public Welfare,[24] by James E. Gripton, proposes two variables, client vulnerability and worker autonomy, as the basis for a set of criteria with which to determine the level of training necessary to perform a certain task. This publication also describes several studies of such subjects as the desirable size of caseload for economical administration of funds and efficient service to clients, in-service training programs, and various cost analyses. Three major conclusions are drawn from these studies. First, there is evidence that the reduction of prevailing public assistance caseloads by as much as one-half results in greater administrative efficiency, and in substantial savings in payments, as welfare recipients are rehabilitated with greater speed. This point, of course, is no solution at all, in that it is scarcely feasible to consider doubling the number of existing personnel in the face of a serious manpower shortage. Rather, the fact that increased efficiency might result from reducing the average caseload is a further indication of the severity of the shortage.

Second, in-service training by itself may not ensure a higher standard of service, or predictable improvement in worker competence and performance.

Third, criteria can be developed "for making reliable determinations of the location of specific welfare tasks along a professional-technical continuum."

A program for the use of the nonprofessional in social work and education has been proposed by Frank Reissman in *The Revolution in Social Work: The New Non-Professional.*[25] The new nonprofessional is the indigenous worker—the housewife, the ex-juvenile delinquent, the public assistance recipient, people with little education and no professional training, who aid the welfare recipient at home. The fact that these workers have their roots in the communities they serve gives them a special understanding of the problems of their clients, and they are able to serve as a bridge between the poor and the larger community, and especially the schools and agencies.

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[22] *Social Work Personnel for Mental Health Programs,* Southern Regional Education Board, Atlanta, Georgia, p. 32, June 1956.

[23] Donald Brieland, "The Efficient Use of Child Welfare Personnel," *Children,* Vol. 12, No. 3, pp. 91–96, May–June 1965.

[24] James M. Gripton, *Staffing and Staff Utilization in Public Welfare,* Public Welfare Division, Canadian Welfare Council, 18 pp., June 1963.

[25] Frank Riessman, *The Revolution in Social Work: The New Non-Professional,* California State Department of Social Welfare, 15 pp., January 1965.

Utilization of the indigenous nonprofessional, according to this pamphlet, can achieve the following objectives:

> "It can markedly reduce the manpower shortage in the social service fields;
>
> "It can help to derigidify the professions, allowing professionals to more fully play their professional roles;
>
> "It can provide more, better, and nearer service for the poor;
>
> "It can rehabilitate many of the poor themselves through meaningful employment;
>
> "It can potentially provide millions of new jobs for the unemployed in social service, jobs which are not likely to be automated out of existence."

Another method of utilizing housewives in social work, at a professional level, is described in an article from the New York *Times,* October 1, 1964.[26] According to this article, New York University has established a graduate school in social work in White Plains, New York, for the benefit of the suburban housewife who, because of family obligations, is unable to attend the regular graduate program. The first class of 30 mature housewives is entering a four-year curriculum of classes and fieldwork, "patterned as closely as possible to the life of a busy wife and mother who also wants to enter into the professional life of social work."

During the first year the course will require only about two hours of class work each week, and about five hours of homework. During the following three years, the work will consist of four or five courses annually, given on one day, with two full days of field work.

It is hoped that this pilot study will be of "national significance in efforts to open advanced education to college-educated but family-bound women. It is expected to spread to other areas and include other educational fields if successful."

A study of the utilization of social workers in a hospital setting[27] was conducted at the Albert Einstein Medical Center in Philadelphia, under a grant from the National Institute of Mental Health, focusing on using professionally trained caseworkers at the level of their greatest skill only, rather than requiring the worker to perform a variety of services, many of which do not necessarily demand professional skills. In this study, a new administrative method was introduced assigning cases on the basis of criteria developed for four levels of staff: senior caseworker, junior caseworker, case aide, and secretary.

"By identifying various elements in the case during the intake interviews and the duration of the case, it was planned to determine the lowest staff level at which the case could responsibly be assigned and carried with fullest consideration for casework implications . . . Following assignment of the case, partial responsibility for it could be delegated by both levels of caseworkers to case aides or to secretaries, on the basis of defined criteria; entire responsibility for it could be transferred when additional elements were disclosed that required a different level of case handling."

This new sysetem of assigning cases was found to increase the productivity of the department in terms of both quantity and quality of social service. It is warned, however, that further investigation must be undertaken before results can be generalized to other institutions.

Utilization of other professional and nonprofessional community members in mental health care is an area of increasing significance. People such as general practitioners, clergymen, policemen, lawyers, and teachers may upon occasion handle certain aspects of the treatment situation, freeing the psychiatrist for the job which only he can accomplish. The general practitioner is peculiarly well suited to this role, as he often receives the first warning of emotional difficulties in his patients. According to Dr. William Rotterman, speaking at a conference on the training of physicians in psychiatric principles, sponsored by the Southern Regional Education Board, "The role of the physician in mental health is to understand as a friend and as a teacher the emotional problems of his patients."[28] Conference participants further noted that the physician should be able to recognize early symptoms of mental illness and should know how and when and to whom to refer patients for specialized treatment. Specific skills needed on the part of the physician are the ability to use the interview technique as a means of learning about the patient's emotions, ability to listen well and empathize with the patient, ability to understand himself, and an understanding of the psychiatric referral process.

Another group of extreme importance to the health fields in general as well as to mental health care is the volunteer. According to ***Hospitals, the Journal of the American Hospital Association,***[29] as of December 1961, 3,527 hospitals in the United States utilized a total of 1,198,228 volunteers, who contributed 32,787,478 hours, or 820,000 workweeks. In addition to providing necessary services to the patient, the volunteer is often closer to the problems of the patient than is the professional, and is able to act as an intermediary between them, and to educate both the public and the professional worker. The retired or elderly citizen and the teenager are both potentially valuable as volunteers, who can quickly learn to perform, with great personal satisfaction, those routine tasks which are so time-consuming for the professional, and which do not fully utilize his training and abilities. As an example of a few of the ways in which the volunteer may be valuable, in 1951 the hospital auxiliary at Harper Hospital in Detroit started a volunteer corps which has grown from 40 in 1951 to 320 in 1962. Volunteers work both directly and indirectly with patients, shopping and writing letters for them, and have raised funds and recruited other volunteers through the annual sale of a calendar covering the history and present events of the hospital.[30]

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[26] "N.Y.U. Pioneers New Adult Study," *The New York Times,* Thursday, October 1, 1964.

[27] Margaret M. Heyman, "Effective Utilization of Social Workers in a Hospital Setting," *Hospitals, Journal of the American Hospital Association,* Vol. 36, No. 10, pp. 44–45, May 16, 1965.

[28] *Training of Physicians in Psychiatric Principles,* Report of a Conference Sponsored by the Southern Regional Education Board, Atlanta, Georgia, October 8–9, 1959, p. 4.

[29] "Annual Contributions to Hospitals by Volunteers: 32 Million Hours," *Hospitals, Journal of the American Hospital Association,* Vol. 37, No. 9, pp. 54–56, May 1, 1963.

Another example of the way in which a volunteer group may function is the "meals on wheels" program of the Women's Auxiliary of the San Francisco County Medical Society. Since its inception in 1960, according to Mrs. Alfred de Lorimer, director of the program, over 63,000 meals have been prepared and delivered to 416 different families. Volunteers have contributed over 23,000 hours and have traveled thousands of miles "to nourish and comfort the physically handicapped and aged in San Francisco."[31]

In addition to aiding in the established therapeutic situation, groups of volunteers often take the initiative in establishing community projects. *Volunteers' Digest*, for example, reports that the Mental Health League, in Bellefontaine, Ohio, working with an Episcopal church group and other local citizens, has established a community mental health clinic that is equipped to handle outpatients of all ages. The volunteers contributed labor and materials to convert an unused rectory into a clinic, and persuaded a psychiatrist from a nearby state mental hospital to spend one day a week at the clinic for a nominal fee. The Mental Health League also subsidizes the patient who cannot afford the reduced fee.[32]

Programs employing students to aid professionals serve as recruitment devices as well as utilizing another potentially large manpower pool. In 1946, the American Friends Service Committee founded service units of 20 salaried students each, which were sent to work in various state mental hospitals in Trenton, Rockland, and Philadelphia. The program was so successful that other hospitals soon requested student units to relieve professionals of routine tasks, and soon expanded to Rutgers and Essex in New Jersey. The students were given 30 hours of in-service training, after which they aided in occupational therapy, recreational programs, and other areas. Each week a unit meeting was held to discover how the students could improve their services. The program was so successful that many hospitals requested larger units, and some received units of 70 students the following summer.[33]

The creation of a new professional discipline in the mental health field has been proposed in several forms, and is treated more extensively in this volume by Lawrence Kubie, M.D., and by Lee Sherman Sanella, M.D. The Kentucky Mental Health Manpower Commission discusses the possibility of the formation of such a discipline in *Manpower for Mental Health:*[34]

> "Doctor George W. Albee notes that Donald W. Hastings suggests it might be worthwhile to consider creation of a new professional group, with careful training in psychotherapy, but not required to master all the knowledge at present contained in any of the various professional curricula . . .
>
> "The Commission proposes that a depth study be conducted of mental health programs to determine if a new level of all-purpose worker, with specific training and experience, can be developed to function under competent supervision. This new level of worker would provide the field with a general purpose individual who could serve two major functions. First, the team approach would be unified and group rather than individual therapy could be emphasized. Second, work of the professional in the understaffed programs could be improved by providing assistance where it so desperately is needed."

The program discussed above has been proposed only tentatively, and many details have yet to be worked out. Another plan, which has actually been put into effect on an experimental basis, is described by Dr. Wilson Van Dusen in *Mental Hospitals*, September 1963.[35] According to this article, a few units at Mendocino State Hospital have been administered, since 1961, by social workers, psychologists, and psychiatric technicians, rather than by psychiatrists or by M.D.'s. "Even though the plan was initiated to overcome the shortage of doctors, this basis appeared later to be the poorest argument in its favor. Social workers and psychologists are also in short supply, and have functions of their own to contribute."

The philosophy behind the concept of nonmedical unit administration is simple:

> "Psychiatrists should assign the patient to a unit program suited to his particular needs. Each unit program should be directed by the person best qualified to develop the specific milieu required.
>
> "For 2½ years one psychologist, three social workers, two technician supervisors, and one psychiatric technician held the position of unit administrator, or unit coordinator, as they came to be called. There was no special pay; all of them took on the extra work in order to gain the experience. All were in the chronic female area of a moderate-sized state hospital (2,300 beds). The program had the support of top administrative staff and the area medical chief. The duties of the unit coordinator were specified in writing and this new role was given some publicity throughout the hospital. The duties were all those normally assumed by a unit physician, except orders for individual medical and psychiatric

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[30] Donald A. Frakes, "The Harper Hospital Auxiliary," *Nursing Outlook*, Vol. 10, No. 5, pp. 326–327, May 1962.

[31] "Community Service is Their By-Word," *The Courier*, Vol. 25, No. 1, p. 13, Summer, 1965.

[32] "Citizens Start Mental Health Clinic," *Volunteer's Digest*, Vol. 2, No. 1, p. 7, March 1965.

[33] Russell E. Blaisdell, M.D., "Instiutional Service Units Movement," *American Journal of Psychiatry*, Vol. 106, No. 4, October 1949, pp. 255–258.

[34] *Manpower for Mental Health*, Kentucky Mental Health Manpower Commission, Louisville, Kentucky, p. 6, June 1963.

[35] Wilson Van Dusen, Ph.D., Ernest Klatte, M.D., and Wayne Wilson, M.S.W., "Nonmedical Unit Administration," *Mental Hospitals*, Vol. 14, pp. 483–486, September 1963.

> treatment, and the entering of special incident reports in the chart. The coordinator presided over unit meetings, planned and developed unit programs, made all but the above-mentioned written notes on patients, received and transferred patients, gave permission for brief leaves, answered phone calls and correspondence, signed nonmedical forms, and presented patients at disposition conference. The unit staff and the coordinator were responsible for noticing when patients needed medical care or a change in drug dose, and called on their physician consultant on these matters. Even those critical of the program recognized that medical care was effectively handled."

The program contains many difficulties and drawbacks, but could potentially represent quite a large saving in professional manpower, although:

> "Replacing physicians with psychologists and social workers is not much of a saving in necessary personnel. The great number of psychiatric technicians is a key potential. Here, our experience offers several suggestions: (a) handpick the technician on the basis of demonstrated clinical administrative ability, general education, and ease in relating to authority figures; (b) consider his serving the unit where he knows the patients; (c) apprentice him for a month or so to a physician unit administrator who is sympathetic with the program; (d) offer whatever else may be needed; (e) then give him freedom to develop a program along his own lines, with ongoing training and consultation as needed."

Manpower Pools

As mentioned before, in the paper on recruitment, one of the most important means of dealing with the manpower shortage in any field will have to be the utilization of the untapped manpower pools of Negroes and other minority groups, women, and the socioeconomically underprivileged. The youth of these groups often lack the motivation and the opportunity to acquire the basic education necessary to allow the individual even to consider himself as potentially eligible to aspire to a professional position. Yet even as the demand for unskilled workers decreases, the incidence of high school dropouts increases. According to Lester B. Granger, executive secretary of the National Urban League, "Not one out of 20 young Negroes in a typical industrial community has the faintest idea of the vast variety of jobs that are held by members of his own race, or of the much greater variety that can be held if training is acquired."[36] Government-sponsored vocational training programs, under the Manpower Development and Training Act, in 1964 sponsored the training of some 65,400 workers of all ages and races in semiprofessional, clerical, sales, service, agricultural, skilled, and semiskilled occupations. Of these trainees, about one-third were under 22 years of age, two-fifths were women, and 28 percent were nonwhites; in 1964, almost 75 percent of the 35,000 persons who completed the institutional training program were placed in appropriate positions. Such a plan does move individuals up the occupational ladder, but it is designed primarily as a remedial measure, and does little to encourage an early interest in professional or service occupations, or to prevent the socioeconomically underprivileged youth from ruining his chances for such a career at an early point in his education. The problem of encouraging the individual not to limit himself unnecessarily is, however, largely one of recruitment, in the broadest sense of the term. And while it is important to bear in mind that the individual who has dropped out of high school is not likely to contribute to the solution of the shortage of professional manpower, it should also be remembered that even the intellectually qualified high school graduate may in effect be denied the opportunity of a college education because of his ethnic or economic background. This is also true of the college graduate who may find further professional education, such as medical school, impossible. For example, a study by Edwin F. Rosinski, Ed.D.,[37] of the social class backgrounds of students in four medical schools revealed that, although approximately 54 percent of the total United States population is classified as lower-lower or upper-lower in social class, only 12 percent of the medical students surveyed came from such a background; yet 34 percent of the students came from an upper class background which represents only 3 percent of the total population.

Negro Students in Medical Schools in the United States,[38] by Ruth M. Raup and Elizabeth A. Williams, points out that, in 1961, only 57 of the nation's 85 medical schools, or 67 percent, had enrolled Negro students, although the number of Negroes attending medical schools has more than doubled in the past 25 years, rising from 346 in 1938–39 to 803 in 1961–62. Although the general educational level of the nonwhite population has risen in the past few years, inadequate high school and college preparation, "undoubtedly have helped account for the comparatively low proportion of Negroes entering the field of medicine in the past and probably will continue to do so for some time in the future."

The Commission on Manpower of the American Psychiatric Association,[39] at its meeting of December 12–13, 1963, pointed out that the actual number of Negro physicians, as well as the proportion in relation to the population growth, is declining. Positive suggestions to encourage Negroes to enter the field of medicine and, in particular, psychiatry, were to

> ". . . build strong departments of psychiatry, study Negroes in psychiatry and see what they actually do, improve the quality of premedical and particularly college and undergraduate train-

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[36] *Development of Training Incentives for the Youth of Minority Groups*, President's Committee on Government Contracts, Washington, D.C., p. 3, February 1957.

[37] Edwin F. Roskinski, Ed.D., "Social Class of Medical Students," *Journal of the American Medical Association*, Vol. 193, No. 2, pp. 89–92, July 12, 1965.

[38] Ruth M. Raup and Elizabeth A. Williams, "Negro Students in Medical Schools in the United States," *Journal of Medical Education*, Vol. 39, pp. 444–450, May 1964.

[39] *Minutes*, Commission on Manpower, American Psychiatric Association, 13 pp., December 1963.

> ing, have the district branches [of the American Psychiatric Association] sponsor premedical clubs and work with local counselors of colored college students, attempt to influence cultural factors in the lower economic groups, assist family drive toward scholarly pursuits, and select out the bright [Negro youth] to be sponsored by some group."

Women are another relatively untapped potential source of medical manpower. According to the American Medical Women's Association,[40] despite the shortage of physicians in the United States, only 5.4 percent of medical graduates today are women, as opposed to 73 percent in the Soviet Union. Lack of awareness of the opportunities for women in medicine, due to lack of adequate counseling and recruitment, is at least partially responsible for this low percentage. One major problem confronting the professional woman in any field is that of combining her career with her responsibilities to her home and family; it may also be true that the potential employer tends to be wary of the woman job applicant in any professional field on the basis that she intends to work only until she is ready to begin raising a family. The American Medical Women's Association is currently conducting research to discover how the woman physician may resume her profession after an interruption for maternity.[41] One solution to this problem, proposed in the *Medical Tribune* for May 15–16, 1965, is that women who wish to enter scientific professions should be able to take a reduced course or workload in order to accommodate her other responsibilities. This article further points out that the percentage of women employed in science and engineering dropped sharply during the period from 1950 to 1960.

According to a discussion of Women in Medicine,[42] compiled by Columbia College from discussions with prominent medical educators, there is no discrimination against woman applicants to medical schools today; about 7 percent of the applicants for admission to American medical schools are women, while about 9 percent of those admitted are women. The difficulty lies, therefore, in making more women aware of the opportunities available to them in medicine, and in motivating them to accept these opportunities.

In addition to the expanded utilization of women in medicine, it has been suggested that men might be encouraged to enter the nursing profession. "The first step might be to establish hospital preliminary training schools for men only and medical and surgical units for male patients to be cared for by an all-male staff . . .

"Encouraging men to practice nursing in their own masculine world could turn marriage, which is the profession's worst enemy today, to advantage, for there is no greater incentive to a man to complete his training, retain his post or seek promotion, than the responsibility of supporting a wife and children. Grants for each child and married quarters within or near his place of employment would be added attractions to male nursing."[43]

Automation and Time-saving Devices

As well as improved utilization of mental health personnel and manpower pools, increased usage of various mechanical devices and reorganization of services may provide at least partial and temporary solutions to the manpower shortage. One of the most important developments in this area is the use of computers in medicine. According to the *Medical Tribune,*

> "For several years computers and automated techniques have been used in medicine, but mainly in the relatively simple jobs of assembling, sorting, storing, and giving back information. An increasing number of hospitals, clinics, and medical centers use computers to take inventory in connection with blood banks or drug supplies, to catalogue medical literature, bill patients, record physiologic data, or keep pregnancy and autopsy tests.
>
> "Machines for more complicated work, such as analysis and diagnosis of medical situations, are now in the design stage or in the preliminary phases."[44]

Doctor Raymond E. Bonner of IBM, describing their diagnostic assistance program,[45] has stated that this project is designed "to determine the feasibility of providing the physician with ready access to a massive store of medical information he can use in making diagnostic judgments." If such a system should prove workable, the physician may some day be able to sit down and type out a list of symptoms, to which the central computer would respond with a list of possible diseases, along with any other information requested. It is stressed, however, that such mechanical aids are precisely that: aids to the diagnostician, and not a replacement for him.

One possible use of computer installations is in speeding up the processing of laboratory reports, reducing the time required to provide physicians with laboratory results from 18 hours to less than one hour. The system employed by the Edward J. Meyer Memorial Hospital is worth examining in detail because the way in which the problem of economy of time is handled is indicative of one of the most important trends in the field of medical manpower. According to Dr. Elmer R. Gabrieli, director of the hospital's clinical laboratories,

> "Under the program, a patient checking into the hospital is assigned a number. Blood and urine specimens are collected as a matter of routine, labeled with the patient's number, and sent to the laboratory before the patient is even taken to his room.
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> "In the laboratory, the specimens undergo a minimum number of standard tests designed to

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[40] "Women are Held to Neglect Opportunities in Medicine," *Medical Tribune*, November 21–22, 1964.

[41] "Are Women Having Trouble in 'a Man's World'?" *Medical Tribune*, May 15–16, 1964.

[42] "Women in Medicine," *Columbia College Pre-Med*, Vol. 4, pp. 14–23, spring 1965.

[43] Barbara Miles, S.R.N., S.C.M., "Use More Manpower in the Hospitals," *Medical News*, October 30, 1964.

[44] "Computers in Medicine: Initiation Over, Membership Ahead," *Medical Tribune*, November 21–22, 1964.

[45] *Ibid.*

> discover a maximum number of abnormalities. Studies are now under way to determine just what combination of tests best meets this criterion.
>
> "The results of the tests are immediately sent to an operator who punches them out automatically on a data card. This is then fed into the Meyer terminal of a teleprocessing system and forwarded electronically via ordinary telephone lines to a terminal in the university computer center. There a computer produces the laboratory report, with the patient's name, room number, and the test results.
>
> "By the time the patient is in his room and ready for examination, the test report is in the hands of his physician. Should the doctor wish additional tests, his requests are transmitted electronically through the data processing center. At present, the report is delivered to the physician by hand, but it is expected that eventually there will be a teleprinter at the nursing station on each floor and that the doctor will simply pick up the report together with the patient's chart."[46]

One objection to the process outlined above is that there might be a tendency to substitute the findings of the machine for the judgment of the physician. It is also feared that the process of administering certain tests to every patient entering the hospital would be wasteful of time, personnel, equipment, and money. However, Dr. Gabrieli points out that, "the delays in laboratory work are a national economic catastrophe . . . Patients occupy a bed that costs $30 or more a day while simply waiting for reports on laboratory tests that cost perhaps as little as $0.30."

A discussion of other means of increasing the physical efficiency of the hospital environment may be found in an article entitled "Reconciling Automation and Humanism in the Hospital of the Future,"[47] by E. Todd Wheeler, a Chicago architect. In this discussion of the needs of the patient and the potential of the machine, Mr. Wheeler points up areas of future development in the hospital environment, including: "physical structure (walls, floor finish materials, size, form, texture), light (color, illumination, movement), atmosphere (heating, ventilating, air conditioning, odors), sound, food service, the world of the mind, and aesthetics." Possible changes and improvements in each of these areas are outlined, both in terms of electronic advances and in terms of new understanding of psychology.

Reorganization of certain routine processes may also increase the efficiency with which nursing time is utilized. For example. Andrew R. McKillop describes, in *Hospitals*, September 16, 1963,[48] a study conducted in nine Miami, Florida, hospitals, to determine whether time was wasted on the ward by nursing personnel in the auditing and recording of reportable narcotic drugs. It was concluded that "better utilization would be made of the nurses' time by omitting unnecessary counting of barbiturates, installing narcotic counters to count the oral narcotics, and utilizing an overall sheet that has to be signed only once."

In the same area, Marian Ruth Slonaker reports in the *American Journal of Nursing*[49] on a program at Baptist Hospital, in Pensacola, Florida, whereby a team of nurses is responsible for administering medication to all patients in a 300-bed hospital, with a resultant decrease in medication errors. Administration of all routine medication is carried out under a central control system by a team of RN's who have no other duties and who are able to devote their full time to keeping up with new drugs, paying stricter attention to patient preferences, and checking for errors.

Other systems developed by hospitals to conserve valuable nursing time and to increase efficiency include the following:

Iowa Methodist Hospital in Des Moines, Iowa, employs a "centralized 'one-man' inventory system and a yearly followup procedure, which yields annual dollar-value evaluations of hospital-owned equipment and controls movement of items within the hospital."[50]

San Jose Hospital in San Jose, California, releases nurses for more valuable tasks by assigning ward clerks to function as secretaries. The nurse dictates reports and patient care information on tape, which is then transcribed by the clerk.[51]

Hackensack Hospital, in New Jersey, has developed a new, centralized admitting suite and process, which has not only resulted in better utilization of time for house staff and ancillary personnel, but also provides more immediate and efficient attention and helps to orient the new patient and to reassure his family.[52]

And in Philadelphia, in order to help speed up psychiatric referrals, the Philadelphia Medical Society has set up a clearing office that keeps tabs on waiting lists at clinics and mental hospitals, refers doctors and welfare agencies to the ones most able to provide fast care for ambulatory outpatients. The system has worked so well that the society soon may offer the same service for rheumatic heart disease and other waiting-list cases.[53]

Although most of the programs described above are being carried out in regular hospitals, they should be readily adaptable to the mental hospital or clinic.

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[46] "Computer Slashes Time for Lab Reports," *Medical World News*, Vol. 6, No. 10, pp. 40–41, March 19, 1965.

[47] E. Todd Wheeler, "Reconciling Automation and Humanism in the Hospital of the Future," *Hospitals, Journal of the American Hospital Association*, Vol. 37, No. 21, pp. 51–54, 121 *et seq.*, November 1, 1963.

[48] Andrew R. McKillop, "Do Nurses Spend Too Much Time Counting Narcotics?" *Hospitals, Journal of the American Hospital Association*, Vol. 37, No. 18, pp. 138, 146 *et seq.*, September 16, 1965.

[49] Marian Ruth Slonaker, "Administering Drugs From a Central Drug Room," *American Journal of Nursing*, Vol. 62, No. 12, pp. 108–110, December 1962.

[50] Donald W. Cordes and Errol L. Biggs, "'One-Man' Inventory System Centralizes Equipment Control," *Hospitals, Journal of the American Hospital Association*, Vol. 39, No. 13, pp. 46–47, July 1, 1965.

[51] Goldia N. Barclay, "From Tape to Chart," *American Journal of Nursing*, Vol. 61, No. 6, pp. 64–65, June 1961.

[52] June Finsterle, R.N., and Robert S. Vail, "An Admitting Suite for the First Critical Hospital Hours," *Hospitals, Journal of the American Hospital Association*, Vol. 37, No. 21, pp. 44–48, November 1, 1963.

[53] "Professional Briefs," *Medical Tribune*, Vol. 41, No. 22, p. 195, November 2, 1964.

FINANCING

Introduction

The subject of financing as it relates to the overall problem of expanding the mental health manpower pool is, again, only one of a number of interrelated and inseparable facets which, together, provide an approach toward the resolution of the problem. As with other subjects covered in this study, it is difficult to deal with financing in isolation. This paper, nevertheless, will attempt to do so to the extent possible, but will also indicate the important interrelationships which exist between financing and other segments of the analysis.

Initially, financing may be approached in an extremely broad framework or may be narrowed to embrace specific areas only. In its broadest sense, financing might deal with expenditures for the building and maintenance of facilities, for research, for education and training of personnel, for salary upgrading within the field, and for a plethora of other direct and indirect devices and techniques which might ultimately serve to reduce the manpower shortage. Only the most direct approach, i.e., financing of the education and training of current and future manpower to alleviate the gap between supply and demand, will be covered in this paper.

It should also be noted that this analysis concerns primarily financing mechanisms as they have been applied in general education and training programs and in the preparation of students for the core health occupations. Selected examples from the teaching and engineering fields, which bear on the subject at hand insofar as the methods or techniques which have been employed are applicable to the mental health field, have also been cited.

Lastly, this review can serve its most useful purpose if it presents results and evaluations of alternative programs employed in the area of financing. This paper would be of limited value were it merely to outline programs and tabulate dollar expenditures without attempting to analyze whether the programs employed and the dollars expended have, in fact, served to accomplish the goal of increasing manpower supply. This is doubtless the most difficult area of analysis, since many of the programs, particularly some of the most interesting and thought provoking, have not been in effect for a long enough period to allow successful evaluation.

Some Notes on the Philosophy of Educational Financing

Before proceeding with the discussion of programs under which education or training is being financed in 1965, it might be well to consider the necessity of financing mechanisms and their employment in the area of manpower attraction. Primarily, it must be pointed out that there are two differing points of view relative to the financial aspect of occupational choice. One is that earnings which ultimately stand to be realized in any field of endeavor singularly exert sufficient force to attract entrants into that field, hence that manpower supplies can be satisfactorily manipulated by the alteration of relative rates of return. This method of manpower attraction has been used extensively in the engineering field, particularly in terms of beginning salaries paid to engineers as compared to those paid to other college graduates. The other point of view is that, in addition to these methods, entry into a field must be facilitated through financial assistance when the field has social importance, when personnel are needed, and when the "pull" effect of ultimate earnings has failed to attract sufficient numbers of qualified persons. While these viewpoints are not mutually exclusive, they nevertheless represent a significant difference in degree and in suggested methodology.

This analysis will be of limited value for those who subscribe to the first viewpoint, since it touches only peripherally upon the topic of earnings increments insofar as they are used to attract manpower. Regardless of theoretical viewpoint, the subject must be dealt with from the aspect of the broader second approach, since this approach is in fact being employed, is demonstrably effective, and lends itself to more detailed analyses.

The importance to society of educational support is hardly a new concept. As Alice Rivlin has observed:

> "Generations of economists, going back at least as far as Adam Smith, have paid lipservice to the importance of education, not only for its own sake but as a contribution to economic growth. There are a great many motives for getting an education, but clearly, when people take resources away from present consumption to devote them to training and education that enable them to earn more income in the future, they are, whether they plan to or not, making an investment in themselves—one that has many similarities to an investment in a factory or a machine."[1]

This statement is geared, however, solely to the economic value of investment in education. Marion Folsom approached the rationale for education support from the broader sociological basis when he said:

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[1] Alice Rivlin, "Research in the Economics of Higher Education: Progress and Problems," *Economics of Higher Education*, U.S. Department of Health, Education, and Welfare, Office of Education, Washington, D.C., 1962, p. 360.

> "What is the real reason for relatively low tuition rates in seminaries preparing students to be clergymen, for example? Certainly we don't expect all clergymen to wind up penniless in small parishes. Rather we subsidize their education so that more young people can afford seminary tuition. Thus, we encourage young people to enter the clergy because *we benefit from having clergymen in our midst.* But it is important to realize that we as a nation benefit from the existence of *all* groups of college graduates."[2]

This statement indicates both the necessity of subsidization for education in fields which are of general social value and specifically notes that this approach is also applicable to *all* education. Folsom further alludes to the fact that ex post facto financial reward cannot totally replace the financial assistance which must be available at the time when a course of study or training is being undertaken or contemplated.

If one can validly generalize from recent trends in education of physicians, it can be seen that the value of contributions to the education of persons who later will become integral and necessary functionaries of the society has been realized by a number of interested segments, namely, government (both local and national), business and professional organizations.

The federal government is without doubt preeminent in the field of financing of higher education. Its philosophy, as seen in a statement of the Select Committee on Government Research, is quite concisely stated:

> "It seems clear that federal financial assistance has become, and will increasingly be, a crucial element in the nation's educational program . . . This is even more true of higher education than of schooling at the elementary and secondary levels."[3]

Government, however, is not alone in its recognition of such needs. Both industry and the medical profession have also undertaken in increasingly great measure to provide financial assistance, at least in the specific area of medical education, which we use for illustrative purposes. Industry answered the call of former President Eisenhower with the formation of the National Fund for Medical Education. According to Richard Carter,

> "Twice during 1957, the NFME . . . found it necessary to exhort American industry to a livelier financial interest in the schools. In April, Neil H. McElroy . . . put the fund's plea in terms of 'our future growth and progress—perhaps our survival' . . . In February 1958 the fund announced that contributions from individuals, corporations, and the Ford Foundation had enabled it to contribute a total of $15,873,766 to the medical schools in eight years."[4]

By 1962, such contributions had leveled to an annual rate of approximately three million dollars. It is to be noted that, although none of these funds are directly available to students, students are being indirectly supported through support of medical schools. Also indicative of the role of industry are the many funds supported by the drug industry which provide substantial financial assistance to medical students.

The American Medical Association Education and Research Foundation represents the effort made by the medical profession to encourage medical education for students who might otherwise find the financing problem insurmountable. According to that organization:

> "The year 1962 may well mark a milestone in the progress of American Medicine and the American Medical Association. In March of that year the first student loans were granted under the provisions of the new loan guarantee program of the American Medical Association Education and Research Foundation.
>
> "The goal is to help eliminate the financial barriers to medical education for students, interns and residents . . ."[5]

In its three years of operation, the foundation has been extremely successful both in soliciting physician support and in providing loans to qualified students, interns, and residents.

Thus, it would appear to be the case that financing mechanisms can be effective only when there is a true awareness of the problem of manpower shortage and when both society in general and interested subsections thereof are willing to undertake programs toward its alleviation. It further appears that such direct action programs can be initiated most successfully when the target is expansion within a single profession rather than the combination of fields which comprise "mental health manpower." Therefore although the financing of training can best be handled *within* each separate professional or subprofessional group involved, it must also be borne in mind that the problem of coordination of such programs must be met in order to forestall possible interdisciplinary imbalances which may occur in the future. In effect, then, it is possible for sufficient manpower expansion to take place in most, but not all, fields, and for this imbalance to seriously hamper the overall beneficial effect of the programs.

Individual Need for Financial Support

Having established the social and economic value of contributions to education, it further remains to establish briefly whether or not in our present-day society there is a need on the part of the individual student, or, more broadly, on the part of the family which is likely to be financing his education, for financial assistance.

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[2] Marion B. Folsom, "Who Should Pay for American Education": *ibid.*, p. 197.

[3] *Federal Student Assistance in Higher Education*, Report of the Select Committee on Government Research of the House of Representatives: Washington, D.C., 1964, p. 45.

[4] Richard Carter, *The Doctor Business*: Doubleday, Garden City, New York, 1958, p. 95.

[5] "The Loan Guarantee Program": American Medical Association brochure describing AMA-ERF.

The premise under which we must operate, and which stems from conclusions drawn in a preceding section, is that in order to maximize social and economic values of workers it is necessary that they operate at their optimum physical and intellectual capacity. Rejecting this thesis, it is possible to rationalize away the unfortunate fate of the capable student who is unable to continue his education, and who, at best, may become an unskilled laborer in a shrinking market or, at worst, a burden on society. Accepting it, however, one must agree that there is general good to be derived from enabling this student to continue his education as his capacity allows. (We shall not, at this point, discuss alternative methods of providing such financial assistance.)

According to Ralph F. Berdie, over half of all talented high school graduates do not attend college; of this group, 58 percent noted that this inability to continue their education was due to financial barriers. Furthermore, of this 58 percent, half the respondents indicated that if financial aid paid for only half of their college expenses, they would be able to attend college.[6] These figures stem from a study of high school students in 1958. Although the situation has perhaps improved somewhat since that time, such statistics nevertheless provide an indication of financial need as it is viewed by high school students.

Regarding the problem of financial need as it has been viewed in hindsight by college students who are on scholarships, a survey by Robert M. Colver has shown that 22 percent of the group said that without the financial assistance of these scholarships, they would not have been able to go to college *at all.* A sizable group also indicated that the existence of scholarships had stimulated higher achievement while in high school. Colver further estimated that for every scholarship available there were three candidates potentially able to maintain minimum scholarship academic standards.[7] It must be emphasized that these statistics do not reflect the fact that average students are often unable to finance higher education, but rather that substantially above average scholarship students also find themselves in this situation. It may also be noted here that financing available at the undergraduate level is generally far more difficult to obtain than assistance at the graduate level. Whether or not this imbalance constitutes a problem appears to be a moot point among analysts.

At the graduate level, we again refer to the situation within medical education for illustrative purposes. It should be noted that nonpayable financing available to medical students has traditionally been far more limited than it has been to graduate students in most other fields,[8] although the nature of financial problems experienced by individual medical students approximate or exceed those experienced by students in other disciplines.

According to statistics in the August 1960 issue of the *Journal of Medical Education,* approximately 82 percent of the total cost of medical education is being borne by the student and his family. Only 18 percent comes from funds made available by medical schools, bank loans, and governmental financing. Again, there have been some recent changes which have made available additional resources to students in need. Regardless, the financial problems experienced by graduate students have certainly not been solved. Furthermore, it is also a debatable point whether loans, rather than nonrefundable grants, can provide adequate stimuli to prospective students in all fields of concern. It appears possible that loan funds can sufficiently stimulate entry into the medical profession, but unlikely that such funds will substantially affect nursing, social work, psychology, and the many subprofessional fields which comprise the mental health manpower pool.

Illustrative, perhaps, of the need for financial assistance for trainees within other key professions is the following statement concerning nursing education:

> "While these costs [for nursing education] are small compared to those of medical and dental education, so are the ultimate income expectancies. And the costs alone bar many good prospects from becoming nurses. The recently published Surgeon General's *Report on Nursing* reveals that in a recent sample survey 'almost half of all degree programs reported that most of their students needed full or partial financial help. Approximately 25 percent of the diploma programs stated that students needed some financial assistance. The need for financial assistance probably will be even greater among increased numbers of students whom we hope to attract into nursing. Of 1,200 students who were accepted by diploma schools in 1960 but did not enroll, 33 percent gave lack of financial assistance as the reason.' "[9]

In addition to the absolute need for financing of individual students within a variety of educational and training programs, there is also a place for funds which *facilitate* the pursuit of educational goals—marginal funds which may allow the student to work fewer hours per week, limit the acquisition of debt responsibilities, and generally enable him to function more efficiently as a student due to the lessening of outside pressures. This need is prevalent within medical education and, for that matter, within many fields of postgraduate education wherein the student is of a higher age bracket and more likely to have his own familial responsibilities. According to a survey of graduating medical students conducted by J. Frank Whiting, 34 percent of all students indicated that "ample loan assistance" would have decreased their anxiety about financial problems, and another 26 percent said that it would have reduced the number of hours spent in outside employment. Among married respondents, 30 percent said that such assistance would have eased domestic strain due to money matters and 27 percent that it would have made outside work by the wife unnecessary.[10] Indicative of the improved student efficiency made possible by financial assistance, Whiting says:

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[6] Ralph F. Berdie, "Assumptions Underlying Scholarship Proposals," *College and University Business,* Vol. 34, No. 1, fall 1958, pp. 82–88.

[7] "Administration—An Objective Appraisal of One Program", *College and University Business,* Vol. 30, October 1954, pp. 20–27.

[8] According to the Association of American Medical Colleges, in 1963–64, 81 percent of graduate students in life sciences and 68 percent of all arts and science graduate students receive grants, where only 17 percent of medical students do so. The amounts available are also proportionally lower for medical students.

[9] Thomas Parran, M.D., et al., *Education for the Health Professions,* New York State Committee on Higher Education, 1963, p. 48.

> "These results also indicate that a sizable proportion of students would be prepared to mortgage their future income in order to reduce the necessity of outside employment. Finally, it has been noted that the student's financial problems have a definite bearing on his marital adjustment, which in turn influences his scholastic efficiency while in medical school." [11]

Lastly, the need for financial assistance among prospective trainees in subprofessional fields integral to the overall solution of the mental health manpower problem must also be emphasized. The satisfaction of this need fulfills a threefold purpose: expanding the manpower pool in mental health facilities, providing skills to otherwise unskilled laborers, and ultimately serving to help reduce the detrimental social and economic effects of a high unemployment rate among the marginally employable.

Within this segment, financial assistance primarily takes the form of subsistence allowances for trainees and, often, their families. The cost of training per se is low; however, the trainee often has no other means of support than his own labor, and hence is effectively prevented from improving his skills. That the need for funds for this type of training program exists can hardly be argued; it is somewhat surprising, however, that programs have only recently been established.

Student Financial Assistance: Funds, Programs, Mechanisms

This section proposes to deal with the financing of academic programs at both the undergraduate and the graduate levels. Since there are many programs through which assistance is offered at various levels of study, we have attempted to arrange this analysis according to the field of study primarily affected. Subsections are as follows: undergraduate and graduate degree programs (other than in medicine or nursing), basic medical education, postgraduate medical education, and professional nursing education.

Undergraduate and Graduate Degree Programs

There exist, of course, a multitude of individual student financing plans available in undergraduate education, many of which are of insufficient breadth to be of any interest to the analyst of educational financing mechanisms. By this we refer to the many scholarships financed by philanthropy and by individual universities, the grant-in-aid programs, the student loans, the athletic and academic scholarships, and so on. While these mechanims are of great importance to individual students and can provide needed aid to worthy scholars, they will be excluded from this analysis unless they are of general informative value or can be adapted to our specific field of concern.

At the undergraduate level, possibly the most widespread and effective fiscal instrument which has been and is currently being utilized to reduce manpower shortages in specific fields is the National Defense Education Act, originally passed by Congress in 1958. Title II of this legislation, particularly after amendments passed through 1964, has provided low-interest loans under the following provision:

> "Undergraduate and graduate students enrolled full time, in good standing, and in need of financial assistance and students accepted for enrollment may borrow up to $2,500 per academic year or a total of $10,000 for all years. In the selection of students to receive loans, participating institutions must give special consideration to students with a superior academic background in any field." [12] (Reference substitutes dollar allowance changes authorized by 1964 amendment.) [13]

In order to reduce the manpower shortage in the field of elementary and secondary school teaching, the act further makes the following stipulation:

> "A borrower who becomes a full-time teacher in a public elementary or secondary school or a nonprofit private school or any institution of higher learning is 'forgiven' 10 percent of the outstanding balance of the loan on the first day of teaching (plus interest) for each academic year of service, up to a maximum of 50 percent of the loan." [14]

The NDEA also provides fellowship stipends for graduate students. Title IV of the act makes the following provisions (edited to reflect status after passage of 1964 amendments): [15]

> "For 1965, 3,000 fellowships, during 1966, 6,000 and during the succeeding two years 7,500 fellowships, for periods of study not in excess of three calendar years or three academic years. Each fellow receives a stipend of $2,000 for the first year of graduate study, $2,200 for the second year, and $2,400 for the third year, together

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[10] J. Frank Whiting et al., "Financial Situation of the American Medical Student", *Journal of Medical Education*, July 1961, p. 765.

[11] *Ibid.*, p. 771.

[12] *Report on the National Defense Education Act, Fiscal Years 1961 and 1962:* U.S. Department of Health, Education, and Welfare, Washington, D.C., 1963, p. 6.

[13] *Federal Student Assistance in Higher Education, op. cit.*, p. 26.

[14] *Report of the NDEA, op. cit.*, p. 6.

[15] *Federal Student Assistance in Higher Education, op. cit.*, p. 26.

> with an allowance of $400 annually for each dependent."[16]

Even though the graduate program under NDEA is far less directive than is the undergraduate program, it is specified that preference be given to persons interested in teaching at institutions of higher education. During fiscal 1962–63, the highest percents of fellowships were awarded to students in the social sciences and the humanities, followed, in order, by physical sciences, biological sciences, engineering, and education.

According to the above sources, in 1962 there were a total of 186,465 student borrowers under Title II of the act, with outstanding loans in excess of $89 million. Under Title IV, in 1963 a total of 4,500 graduate fellowships were being utilized by students of 161 separate institutions. The 1964 amendment should expand the utilization under Title IV considerably.

It is difficult to synthesize the many programs under which students may be assisted by federal financing. Partly because of the many separate agencies which provide and/or administer support funds, partly because of the difficulty in separating partial-financing from full-financing programs, and partly because of the distinction between loan funds and grant funds, it is virtually impossible to ascertain the total number of students who are receiving federal aid. A statement by Edith Green enumerates those on nonrepayable grants during 1962:

> ". . . The government provided support for 54,754 graduate students through full- or part-time fellowships and traineeships and employment on federally sponsored research projects. This figure is exclusive of advanced training of military officers in civilian institutions. Fewer than 2,000 federal scholarships were available for undergraduate students, of military and VA programs."[17]

According to another governmental source:

> "Nine federal departments (Justice alone excepted) and at least nine independent agencies carry out the programs under which (in fiscal 1963) a quarter-billion dollars in student higher education assistance was extended to just over a quarter-million students in the 802 colleges and universities analyzed in this study. The Department of Health, Education, and Welfare, within which fall the Office of Education and the Public Health Service (which also embodies the National Institutes of Health), accounts for nearly 70 percent of the students and about 63 percent of the funds. The National Science Foundation is responsible for 16 percent of the students and nearly 17 percent of the money. The remaining 14 percent of the students and 20 percent of the funds are distributed among 40-odd other offices and bureaus."[18]

The preceding estimate of a quarter-million students being supported appears to be broken down as follows: 67,000 on grants and 186,000 on loans. Additionally, there were a total of 116,000 students at all levels receiving assistance such as veterans' or war orphans' benefits. These figures represent fiscal 1962 and apparently include federal support provided indirectly through colleges and universities. They may include, however, some duplication in the count in cases where individual students receive such assistance under more than one program simultaneously.[19]

Lastly, Part B of the Economic Opportunity Act of 1964 is concerned with financial assistance to college students. The Office of Education will be administering part-time work-study programs in colleges and universities for students from low-income families. The program will further assist colleges in expanding their on-campus work programs and in developing off-campus employment opportunities for students. Although the program provides no direct grants to students, its effect will be to stimulate higher educational attainment through accessibility of earned income while additionally serving to expose the student to post-college occupational opportunities.

In addition to federal programs, individual states provide financial support for the higher education of selected students. Perhaps the greatest advantage which states have over the federal government is the flexibility which can be exercised in the functioning of such programs. Individual states are more able to answer immediate, localized personnel needs by patterning assistance programs to provide such manpower. Additionally, they are able to offer diversified programs to answer specific needs. Illustrative, perhaps, of some of the varied programs offered by states is the effort made in New York to augment the health manpower pool within the state:

> "State assistance to students in the health professions is now available through an unprecedented variety of programs. . . . Chief among them are:
>
> 1. *Regents' Scholarship Awards,* granted on the basis of competitive examinations, with amounts determined by need, including:
>   a) Approximately 16,000 grants annually for general undergraduate study, ranging from $250 to $700,
>   b) Six hundred grants annually for basic professional education in nursing, ranging up to $500,
>   c) One hundred annually to medical and dental students, ranging from $350 to $1,000,
>   d) Thirty scholarships to registered nurses for advanced training in teaching or administration in the amount of $750.
> 2. *The Scholar Incentive Award Program,* available to all undergraduate and graduate students on the basis of modest academic requirements, not necessitating

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[16] *Report of the NDEA, op. cit.,* p. 20.

[17] Edith Green, *The Federal Government and Education,* House Document No. 159, 88th Congress, First Session, U.S. Government Printing Office, Washington, D.C., 1963, p. viii.

[18] *Federal Student Assistance in Higher Education op. cit.,* p. 7.

[19] *The Federal Government and Education, op. cit.,* p. 33.

competitive examination, and offering grants between $100 and $300 for undergraduate study and $200 to $800 for graduate and professional study, with amounts determined by need. (Nursing students in diploma schools are not eligible for this program.) In the spring semester of 1962, 74,000 students received $7.5 million under this program. The recipients included 2,300 medical and dental students who shared almost $600,000.

3. *The New York Higher Education Assistance Corporation*, which guarantees loans made by private lending institutions to New York State residents pursuing higher education. The loans up to $1,500 a year to a total of $7,500, are interest-free during the period of college and graduate study; bear 3-percent interest thereafter. In 1962 approximately 1,500 medical students, 650 dental students, 600 nursing students, and 160 social work students obtained loans under the program."[20]

It can be seen that state programs of these types lend themselves most readily to application in the encouragement of students to enter mental health fields. What is primarily necessary is a realization of the extent of shortage and a willingness to institute a program which will direct scholarships and grants toward fields of study which will alleviate the shortage.

Analogous to such state programs are many private foundation student financing plans, which need not be separately outlined. The following two sections, which deal with medical education, however, detail some such programs in that specific field.

Basic Medical Examination

Preparation for a career in medicine is one of the most costly courses a student can follow subsequent to his attainment of an undergraduate degree. In addition, it appears to be the case that financing available to medical students is far more limited than among other disciplines (see earlier reference under "Needs"). According to the New York State Committee of Medical Education, "A study by the Association of American Medical Colleges in 1959 (and costs have risen since) showed that it cost the average student $3,000 a year for each of his four years in medical school, and that 33 percent of students graduated with indebtedness averaging $4,258. For some, of course, it was much higher."[21]

In answer to this need for financing and to repeated assertions that the pool of physicians is now or is expected soon to be of insufficient size to care for the health needs of Americans, expansion has been evidenced recently in financing mechanisms which make funds available to medical school students. Some of these are noteworthy in their applicability to other fields of study.

First, there are the scholarship grants available to medical school students. Scholarships at this level of study have never been offered extensively and, despite some attempts made during the past few years, are still exceptional. For this reason the New York committee was able to state that "it is no accident that 45 percent of medical students today come from the 12 percent of the nation's families with incomes of $10,000 or more."[22]

The federal government, in its original bill which was later to become Health Professions Educational Assistance Act of 1963 (PL 88-129), proposed to provide scholarship grants "not to exceed $2,000 for any year, as such [medical] school may determine the student needs for such year on the basis of his requirements and financial resources" which would be given to "talented students on the basis of need for financial assistance in pursuing a course of study at the school for such year."[23] The legislation, however, was passed without this scholarship grant provision.

Perhaps the only institutionalized medical student scholarship programs, with the exception of assistance sponsored by certain philanthropic organizations, are those provided by the various state governments. As indicated earlier, New York is a leader in this field. A number of states offer totally forgivable loan funds which, under the fulfillment of the terms specified become, from the viewpoint of the student, much the same as outright scholarship grants. An example of this type of forgivable loan (data are for school year 1959–60) is the State of Georgia, which offered funds to 125 medical students in amounts on "up to $1,250 per year, or $5,000 over four years, based on financial need," with loans totally forgiven under the stipulation of "five years of practice in a designated community of 5,000 population or less."[24] Eleven states had this type of provision in 1960, with two additional states (New York and Massachusetts) offering assistance to students with financial need without imposing any such requirements. It should be noted that all of the states provide a repayment alternative to the fulfillment of the commitment, generally with low interest rates.

One can readily note the parallel position between physicians in rural areas and manpower in the field of mental health. One can also note that such loan forgiveness programs can be set up to finance education in any field wherein critical needs exist.

The subject of forgivable student loans leads to the second type of medical student financing, repayable student loans. Such financing plans of one form or another are becoming more and more prevalent in medical education.

The federal government has been in the business of providing loans funds to medical students since the passage of the National Defense Education Act (PL 85-864) of 1958. According to the Association of American Medical Colleges,

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[20] Thomas Parran, M.D., et al., *op. cit.*, pp. 49–50.

[21] *Ibid.*, p. 46.

[22] *Ibid.*, p. 47.

[23] *Health Professions Educational Assistance:* Hearings Before Committee on Interstate and Foreign Commerce—House of Representatives, February 1963, Washington, D.C., p. 14.

[24] *Coordinating California's Higher Education: Medical Education in California;* Coordinating Council for Higher Education publication No. 1001, Sacramento, January 1963, p. 47.

> "It is one of several programs in the act designed, in the words of the law itself, 'to identify and educate more of the talent of our nation' and 'to insure trained manpower of sufficient quality and quantity to meet the national defense needs of the United States.'
>
> "The student may borrow for college expenses in one year a sum not exceeding $1,000 and during his entire course in higher education, a sum not exceeding $5,000. The borrower must sign a note for his loan. The repayment period of the loan begins one year after he completes his full-time course work and extends over a 10-year period. Interest is at 3 percent per year and begins to accrue at the beginning of the repayment period. During periods of military service and during periods of full-time attendance at an accredited institution of higher education no interest will accrue and no repayment is required." [25]

In 1963, the Health Professional Education Assistance Act authorized the Secretary of Health, Education, and Welfare to enter into agreements with public or nonprofit (organizations) of medicine, osteopathy or dentistry for the *establishment and operation of student loan funds.*[26] The functioning of the new legislation is much the same as the loan features of the NDEA, although the yearly ceiling is higher ($2,000) and there is no limit on the total amount which may be borrowed. The interest rate is compounded at "the going federal rate" (4 percent in 1963). There is the same one-to-nine matching feature in this legislation as under NDEA. Repayment is over a maximum of ten years. According to a recent source, "As of July 31, 1964, no moneys have been appropriated for this act although they are expected to be shortly, with the passage of the Department's Appropriation Bill." [27]

At this writing there is legislation before the Congress which would authorize a loan fund for medical students with a 50 percent forgiveness feature. According to Washington reporter Gerald G. Gross:

> ". . . . authorizing forgiveness of up to 50 percent of loans to medical students, provided they practice in doctor-short areas, the bill cleared the Senate and now goes to the House . . . Determination of shortage areas would be made by state authorities." [28]

As of June 1965, no action had been taken by the House of Representatives; a similar bill, however, had failed to pass the House in the previous session.

In 1962, the American Medical Association Education and Research Foundation established its student loan program. Contrary to the governmental programs, which provide financial assistance to students only, the AMA-ERF provides loan funds for interns and residents as well. While interest rates for AMA-ERF loans are somewhat higher (5.5 percent at this time) and interest accrues on the principal during the entire time the loan funds are outstanding, there is one advantage to the student: no repayment must be made "until five months after the completion of all full-time training, including internship and residency." [29] Furthermore, there is no matching requirement on the part of the medical school or hospital and the institution is not required to make the collections.

The industry-sponsored National Fund for Medical Education provides substantial amounts of money to medical schools; however, such funds are not directed toward student financing.

Postgraduate Medical Education

At the postgraduate level in medical education, there exists a substantially greater diversity of programs under which student financing can be obtained. At this level, funds available are somewhat more specialized in their designation. Indicative of the multiplicity of funds, awards, fellowships and traineeships available at the graduate level in medicine, is the fact that the most recent edition of *Financial Assistance Available for Graduate Study in Medicine,* published in 1963 by the American Association of Medical Colleges, contains 666 pages. Programs are sponsored by six main sources: medical schools, hospitals, private foundations, medical specialty groups, drug manufacturers, and government agencies. A few of these programs appear applicable to the mental health manpower problem.

The Veterans' Administration offers a residency program wherein a physician can specialize while he is being compensated at the same rate as full-time staff physicians. In order to participate in this program, the physician must pledge to work for two years for the Veterans' Administration after he finishes the three-year training program.

A number of states offer stipend residency programs which, upon completion of the program, require varying periods of service within the state. Louisiana, for example, has a program for psychiatric residents which scales the amount of stipend offered to the length of postresidency service guaranteed by the trainee.[30]

The National Institute of Mental Health offers a substantial number of stipends granted through training institutions for special students in diverse fields. In California during fiscal 1964, 184 physicians alone received stipends to do graduate work in various psychiatric or related fields. Most of these (119) were doing graduate work in psychiatry; however, 50 of them were general practitioners participating in postgraduate psychiatric training programs. It should be noted that individual stipend amounts in this latter field of study were considerably higher than in other fields where the financial needs of the physician-student might not be as great. Relative to training grants, Eli A. Rubenstein has noted:

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[25] *Sources of Information of Financial Aid to Medical Students,* published by The Association of American Medical Colleges, Evanston, Illinois, 1961, p. 3.

[26] Arthur E. Carpenter and Eugenia Sullivan: *Indicators,* U.S. Department of Health, Education, and Welfare, Office of the Secretary, October 1963, p. xxxii.

[27] Elmer L. Hill and Lucy M. Kramer: *Indicators,* U.S. Department of Health, Education, and Welfare, Office of the Secretary, August 1964, p. xxxiv.

[28] Gerald G. Gross, *Washington Report of the Medical Sciences,* No. 919, February 1, 1965.

[29] "Medical Education Loans, Public and Private," *Journal of the American Medical Association,* Vol. 187, No. 1, January 4, 1964, p. 47.

[30] *From Training to a Professional Career in Mental Health,* brochure published by the Louisiana State Department of Hospitals, Baton Rouge, Louisiana.

> "The NIMH awards training grants (are) for the purpose of strengthening and expanding existing programs and for the development of new programs over a broad spectrum of mental health training . . . many of these grants provide trainee stipends for students selected for such support and appointed by the training center. Mental health trainee stipends are not awarded directly to individuals."[31]

Professional Nursing Education

In the field of nursing education, the government is again in the predominant position as a provider of assistance funds. Nevertheless, according to the Surgeon General's Consulting Group:

> "Scholarship and loan funds for nursing students are very limited. The Committee on Careers of the National League for Nursing has pointed out: 'Nursing scholarships exist. But they are far too few, often too small, often unknown to those who could benefit, and many times out of step with nursing education needs.' "[32]

Federal government loan funds have been available since 1958 under the NDEA. The provisions are the same as those for undergraduate and graduate loans in other fields (as earlier outlined). There is no forgiveness in loans under NDEA for students who enter the nursing field. The consulting group has recommended that such a forgiveness feature be added for nursing students, a recommendation acted upon in subsequent legislation (see below).

The most significant legislation in the field of nursing education has been the Nurse Training Act of 1964 (PL 88-581) which, according to a statement by the Department of Health, Education, and Welfare, was designed "to increase the number of nurses by helping them to defray the costs of their nursing education, and to encourage them to stay in active practice by a partial cancellation clause based on their years of employment as professional nurses."[33]

The operation of this financing program is much the same as under the NDEA, and the forgiveness clause under which the loan is reduced by 10 percent "for each year of full-time employment as a professional nurse in any public or nonprofit private institution or agency" is patterned after the NDEA provision which covers teachers. Preference in the issuance of loans is for first year students. There is the usual one-for-nine matching requirement which must be met by participating schools.

According to the Surgeon General's Consulting Group, "The Army and the Navy offer a few scholarships covering one or two years of study to student nurses who agree to serve for a specified time with the military forces after graduation."[34]

At the graduate level in nursing, as in many other fields, there is substantially more assistance available, particularly in nonrepayable fellowships and traineeships.

According to the Division of Nursing of the U.S. Public Health Service, there are special fellowships in nursing research which are competitively granted "to prepare nurses to do independent research, to collaborate in multidisciplinary research, or to stimulate and guide research of importance to nursing."[35] There additionally exist the nurse scientist graduate training grants, under which funds are given to graduate schools "to provide training stipends to nurses who are studying toward doctoral degrees in the biological, physical or behavorial sciences."[36]

The Surgeon General's Consulting Group has further noted the existence of the Health Amendments Act of 1956 which established the Professional Nurse Traineeship Program. They have noted that:

> "The purpose of this program is to improve the quality of patient care by increasing the number of nurses with preparation for positions as teachers and administrators in nursing schools and as supervisors and administrators of nursing services in hospitals and public health agencies."[37]

The program provides for full-time study for one academic year as well as for short-term special coursework. Under the former arrangement, provision is made to cover tuition and an allowance for living expenses while the nurse is away from home.

There are two other federal programs worth noting. The National Institute of Mental Health Training Program, established in 1947, has given support for nurse trainees to complete advanced study in the field of mental health nursing. The Health Amendments Act of 1956 authorized a Public Health Traineeship Program for graduate or specialized training in public health for nurses; included in the program are professional nurses who wish to prepare for beginning positions in public health nursing.

Among private funds available in professional nursing education the Surgeon General's group cites the following:

> "Until recently one of the principal sources was the National League for Nursing, which received $1.5 million for this purpose from the Commonwealth Fund. Almost 200 fellowships were granted under this program.

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[31] *Mental Health Training Grant Awards Fiscal Year 1964*, U.S. Department of Health, Education, and Welfare, Public Health Service, Publication No. 1233, Part II, Bethesda, Maryland, 1965.

[32] *Toward Quality in Nursing: Needs and Goals*, U.S. Department of Health, Education, and Welfare, Public Health Service (Surgeon General Consulting Group), Washington, D.C., February 1963.

[33] Jessie M. Scott, "Nurse Training Act of 1964," *Health, Education, and Welfare Indicators*, U.S. Department of Health Education, and Welfare, Office of the Secretary, October 1964, p. v.

[34] *Toward Quality in Nursing: Needs and Goals, op. cit.*, p. 30.

[35] *Division of Nursing's Research Grants and Awards*, U.S. Department of Health, Education, and Welfare, Public Health Service, Division of Nursing, Publication No. 1101, Rev. 1965.

[36] *Ibid.*

[37] *Toward Quality in Nursing: Needs and Goals, op. cit.*, p. 41.

> "Twenty-nine colleges and universities in 18 states are now receiving funds for advanced education of professional nurses from the National Fund for Graduate Nursing Education, which was organized in 1960. In 1961, assistance provided to accredited graduate programs from this fund totaled $100,000."[38]

Judging from the extent of programs initiated it would seem that the nursing shortage has been recognized and appreciated and that at least initial steps have been taken toward its alleviation. The financial problem within the professional nursing field, unlike that in medicine, is twofold: a consistent upgrading of qualifications (as measured by the number of years of formalized training demanded), without concomitant wage-rate adjustments. The creation of this dilemma, we might add, is one which has been sharply criticized by some, notably Thomas Hall, Jr., M.D., although most experts appear agreed that augmented qualifications were necessary in modern nursing. In any event, until there is the "pull" effect of higher wages which we noted earlier, in addition to the "push" effect of financial assistance programs for trainees, there may well remain a shortage within the field.

Financing Trainees in Subprofessional Fields

Besides the financing programs available for personnel training in the various professional fields comprising the mental health manpower pool, attention must also be given to the training of key subprofessionals.

Within the area of mental health there are numerous functions currently being performed by professional personnel which could as efficiently and without the waste of skilled manpower be performed by less highly trained persons. As one can see in many analyses of the mental health manpower shortage, one of the principal problems which must be attacked is the relief of professional personnel from many of the details which they now are required to perform. Only through sufficient expansion and proper training within subprofessional mental health fields can these adjustments be made.

There are myriad functions which lend themselves to performance by semiskilled and unskilled personnel in mental health. Housekeeping and clerical functions are perhaps most outstanding; however, subprofessionals might also perform roles in therapy groups, counseling, patient supervision, screening and other jobs which expanded training might permit.

Personnel in subprofessional categories do not have the burden of excessive training costs over a number of years, as is the case among professional workers. There are, however, other financial difficulties which prevent unskilled workers from improving their position by qualifying themselves for the more needed skilled occupations. The typical financial difficulty experienced by the unskilled laborer is the familial responsibility which must be carried out and which, therefore, often precludes the financial luxury of time off to learn new or improved skills.

The primary institutionalized programs to alleviate financial problems in training have been enacted by the federal government. Recent legislation has vastly expanded and redirected the Smith-Hughes Act of 1917 and the more recent George-Barden Act originally passed in 1946. The three individual enactments of greatest importance have been the Area Redevelopment Act of 1961, the Manpower Development and Training Act of 1962, and the Vocational Education Act of 1963. Amendments to the latter two pieces of legislation have expanded them considerably.

Under Title II of the George-Barden Act, as it was amended in 1956, there is a successful program for the training of practical nurses. The program is on a one-to-one matching arrangement with states and local government. During 1962, $4 million was distributed under the program. According to the Department of Health, Education, and Welfare:

> "Since 1957, federal support has been provided for training programs for practical nurses. The purpose of these programs is to extend and improve the training for practical nurses and other health occupations. Training is provided in vocational schools, high schools, and some community colleges. Such programs are approximately one year in length and primarily at the post high school level. In 1962, an estimated 48,900 students were enrolled in practical nursing courses and 22,900 in courses for other health occupations such as nursing aides and dental assistants."[39]

The later Area Redevelopment Act, according to a statement from the Office of Manpower, Automation and Training, is designed to fulfill the following needs:

> "Adult workers who have become unemployed frequently do not have the same opportunities for training or retraining as young people who are readily able to acquire their basic education and job skills. The ARA training program focuses on the needs of these adults, many of whom have family responsibilities, by offering the following advantages:
>
> > Short intensive training courses geared directly to the requirements of job openings.
> >
> > Reasonable prospect for employment on completion of training.
> >
> > Subsistence payments for a maximum of 16 weeks at the state's average unemployment compensation rate while the individual is being trained."[40]

As one can readily see, this is a more directed, immediate program geared to quick solutions and providing short-term training. This technique can lend itself easily to the alleviation of health manpower shortages, as one can see from the following progress report:

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[38] *Ibid.*, p. 42.

[39] *The Federal Government and Education*, *op. cit.*, p. 85.

[40] *Training for Jobs in Redevelopment Areas*, Report of the Office of Manpower, Automation, and Training, U.S. Department of Labor, Washington, D.C., 1962, p. 3.

> "The [Michigan] State Departments of Health and Education have established four training centers in health institutions strategically located to serve the state's redevelopment areas. The Employment Security Commission selected the trainees and has been paying their ARA subsistence benefits under grants made by the Federal Department of Labor . . . Eighty-four persons enrolled when this statewide project got underway early in June 1962 and arrangements have been made to train several hundred additional persons in what promises to be the largest occupational training project of its kind. Trainees are assured of employment in hospitals and nursing homes upon completion of their course of instruction."[41]

In the health field, during the first eight months of the program training was furnished to hospital orderlies, nurses' aides, and psychiatric aides, along with refresher courses provided for registered nurses. Training programs under ARA are now covered under MDTA (see below).

The 1962 Manpower Development and Training Act is not essentially different from the ARA, although it represents a considerable expansion of the role of government in the field of vocational training and also allows for longer term training. According to the Department of Health, Education and Welfare, the purpose of the legislation insofar as it provides financing to trainees is as follows:

> ". . . to provide vocational training to unemployed and other persons to help them meet new requirements of many occupations; and to alleviate unemployment resulting from technological and other changes in our national economy."[42]

Initially the program specified that trainees be unemployed persons who have previously had three years of work experience and are heads of families or households. Only 5 percent of the total MDTA training allowances were to youths between 19 and 22 "where allowances are necessary." Allowances were to be at the level of State Unemployment Compensation.

The 1963 amendments increased the allowance up to $10 a week over the previous level, specified that the trainee can work up to 20 hours per week without forfeiting benefits, that others besides heads of households or families qualify, that persons with *two* years of work experience qualify, and that up to 25 percent of the benefits may go to persons under 22 years of age, with the lower limit for some types of benefits revised to age 17. Although the MDTA is on a 50-50 state matching basis, such a requirement was temporarily waived and the matching ratio lowered to 37 for fiscal 1966.

The amendments of 1965 further broadened MDTA, extending the allowed training period to 104 weeks to "provide the flexibility for lengthening training courses, particularly those combining basic education and occupational training . . ."[43] In addition, benefits were made available to persons who were not members of families or households, upward adjustments in allowances were made for some trainees with family responsibilities, and commuting expense allowances were allowed. Also, the amendments repealed a portion of the ARA and merged it into the MDTA program.

Particularly since passage of the amendments indicated, the MDTA has become a notable force in vocational education and retraining. In the early days of its operation, male trainees were generally prepared for skilled, blue collar occupations and women for secretarial and other clerical occupations. At this time, officials are attempting to broaden the base of training available. No information is readily available as to the success in such diversification, however.

Signed into law in December 1963 was the Vocational Education Act, which is designed to dovetail with the MDTA in attacking the problem of the unskilled worker in the American society. Unlike MDTA, which emphasizes the training of adult unemployed and underemployed workers, the Vocational Education Act authorizes programs "for persons in high school, for those out of high school available for full-time study, for persons who are unemployed or underemployed, and for persons who have academic or other socioeconomic handicaps that prevent them from succeeding in the regular vocational education program." It further directs funds to "vocational education programs without categorical limitation under a broadened definition of vocational education to fit individuals for gainful employment, embracing all occupations, including business and office occupations not now covered under existing law."[44]

The breadth of the program, as well as its applicability, is evidenced by a recent press release issued jointly by Secretaries Wirtz (Labor) and Conner (Commerce):

> "The two secretaries issued a progress report coincident with the formal signing of the largest on-the-job training contract ever negotiated. This $1.6 million contract, between the Department of Labor and the Hospital Research and Education Trust of the American Hospital Association, will provide training for 4,000 unemployed and underemployed persons in many types of subprofessional, unlicensed hospital occupations. The training will be conducted in 300 of the 7,000 hospitals and nursing homes registered by the AHA."[45]

The Youth Opportunity Act of 1964 has also provided funds for vocational training of underprivileged, undermotivated youth. According to the Department of Health, Education, and Welfare, "The purpose of Title I is to create new opportunity and expand existing opportunities for young people to obtain work, education and training."[46]

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[41] *Ibid.*, p. 17.

[42] *Grants-in-Aid and Other Financial Assistance Programs Administered by the U.S. Department of Health, Education, and Welfare* (1963 Edition), Office of Program Analysis, Washington, D.C.

[43] *The Manpower Act of 1965*, U.S. Department of Labor, Office of Manpower, Automation, and Training, Preprint No. 7, May 1965, p. 3.

[44] Wilbur Cohen and Francis Keppel, *Indicators*, U.S. Department of Health, Education, and Welfare, Office of the Secretary, January 1964, p. xxxi.

[45] Press Release—re: Job Development Training Program, U.S. Department of Labor, May 11, 1965.

Title I of the act is composed of three major portions in the field of educational and training financing. Parts A and B deal with training programs for unskilled and semiskilled occupations. Part C, discussed earlier, assists college students.

The Job Corps, under Part A, has the following purpose:

> "The Job Corps, to prepare young men and women for the responsibilities of citizenship and employment . . . will seek to enroll young people who are out of school and out of work . . . age 16 through 21, in either conservation camps or training centers . . . and will offer opportunities for education, training, useful work, recreation and physical training. . . ."[47]

Part B of the program is outlined as follows:

> "The work-training program is designed to give unemployed young men and women aged 16 to 21 (both in school and out of school) a chance to break out of poverty by providing them with work and training opportunities. It is particularly designed to provide part-time work which will enable young people to stay in high school or return to high school if they dropped out."[48]

Again, one can see the possibilities which exist for training of subprofessionals to relieve the work burden which often, by default, must be assumed by highly trained professional workers. The newness of such federal programs makes them somewhat flexible to demands which may be made on them. In any event, the program may lend itself to some utilization toward solution of the problem at hand.

The potential of these legislative enactments toward expanding the mental health manpower pool should be quite apparent. It becomes the responsibility of local agencies to utilize such legislation and to encourage its use by individuals who stand to benefit.

In-service Training Programs

In addition to the financing of programs which prepare personnel to assume roles in the mental health manpower field, mechanisms which provide those already working in the field with an opportunity to improve job skills are also of considerable significance. The capable employee who stagnates occupationally is performing a disservice not only to himself but also the institution where he is employed, the mental health field, and, very broadly speaking, to society at large. When he is unable to afford remedies for such stagnation, the guilt must be shared. In-service training programs to supplement job experience, particularly insofar as they permit assumption of expanded responsibilities by individual workers, can efficiently serve to alleviate many of the burdens which now fall upon the most highly trained personnel.

Financing programs must be made available so that such training opportunities may be utilized by a maximum number of workers. This is true particularly in cases where full-time study, even over short periods, is necessitated for upgrading of skills. It is, however, of importance in part-time study programs and in stimulating employees to avail themselves of programs offered outside of institutions of their employ and after work-hours. An adjunct to this type of financing program is the "merit pay concept," which serves to retain personnel in situations where their skills are best directed rather than allowing them to be forced into better paying administrative positions where their skills are of only limited value.

The National Institute of Mental Health stipend program indicated earlier, which provides postgraduate training in psychiatry for practicing psychiatrists and for general practitioners, is one example of a high-level, professional in-service training program. These stipends allow well-paid, highly qualified personnel what would be the financial luxury of pursuing further studies on a full-time basis. Without financial assistance, such studies would be virtually impossible.

The NIMH has recently instituted a grant program for in-service training of subprofessional personnel. According to Eli A. Rubenstein, Ph.D., Chief of the Training and Manpower Resources Branch of the institute:

> "Included in this edition (of the Institute's Annual Report) are grants awarded in a major new area of support, the in-service training program. Under this program, grants are offered for in-service training of the subprofessional personnel employed in mental hospitals and institutions for the mentally retarded."[49]

Specifications concerning this new program were not available for incorporation into this report; however, appearances are that it might provide a partial answer to the in-service training problems of subprofessional personnel. Dr. David Michener of the U.S. Public Health Service has stated:

> "This [the In-service Training Grants Program] too is an individual project program, by which grants of up to $25,000 a year can be obtained for in-service training in state institutions for the mentally ill and the mentally retarded . . . Federal grants to institutions for in-service training programs, available for the first time this year, represent a substantial broadening of NIMH policies and a modification that will have considerable meaning to state mental health planning . . . First consideration is being given to programs for aides, attendants, house parents, and others similarly involved with direct patient care. It is anticipated, as with HIP [Hospital Improvements Project program], that eventually

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[46] Dean W. Costen, "The Economic Opportunity Act of 1965," *Indicators*, U.S. Department of Health, Education and Welfare, Office of the Secretary, September 1964, p. xi.

[47] *Ibid.*

[48] *Ibid.*

[49] *Mental Health Training Grant Awards*, FY 1964, *op. cit.*, p. iii.

> every eligible institution will be able to develop a supportable training program and the number of applications by the first deadline (December 10, 1963) suggests that almost all our institutions are very much interested."[50]

In the nursing field, the Professional Nurse Traineeship Program was created to implement Title II of the Health Amendments Act of 1956. In the words of the Department of Health, Education, and Welfare:

> "It authorized funds for financial aid *for full-time study to registered nurses to* prepare for administration, supervision, and teaching in all fields of nursing. The use of the funds was limited to tuition and fees, stipend, and allowances including travel expenses for trainees. Funds were to be granted to the institutions which provided the training to enable the schools to select their own trainees."[51]

In addition to the full-time, long-term training program made available through this legislation, there is also a short-term training program for increasing skills within the professional nursing field:

> "A short-term program was initiated in 1960 whereby professional nurses who were unable to study full-time, but who needed additional skills for the positions they occupied, could be supported financially in the necessary coursework for periods of from five days to a month."[52]

Economist Donald Yett has analyzed the nursing shortage from the point of view of the wage structure vis-a-vis the costs of training and, in the case of the nurse who has been inactive for a number of years, the cost of returning to the profession. He indicates the belief that wages are too low within professional nursing, but that this problem is in some measure structural. Therefore, with reference to the advantage of what might be considered in-service training, he has stated:

> "In view of the 'stickiness' of nurse salaries, and given the high propensity to work of trained nurses over age 35, the best way to increase the short run supply of nurses might be to improve and expand experiments with 'refresher courses' for inactive nurses."[53]

The teaching profession perhaps offers the most successful, institutionalized in-service types of training programs and financial incentives for the improvement of occupational skills. In addition to the in-service courses which are offered, a direct financial incentive is provided in the scaling of wage levels for teachers to amounts of postgraduate work completed. Periodic salary increments often cease entirely after a number of years for the teacher who shows no evidence of further self-improvement.

More recent is the institution of "merit salary programs" in school districts throughout the country.[54] These programs, basically, provide salary increments to outstanding teachers to prevent them from seeking administrative positions because of salary differentials. In effect, then, such programs are "paying the teacher to teach." These programs have been shown to be effective both in retaining and in recruiting outstanding teachers. The application of this idea, of course, is "paying the therapist to conduct therapy," rather than to be a hospital administrator, or "paying the nurse to nurse," rather than to supervise.

Evaluation of Programs

In the last analysis, the only valid evaluation of financing programs is whether or not they have been effective in raising supplies to meet demands by attracting more personnel into an occupation than would have been attracted without such programs. Completely controlled experimentation in making such judgments is, of course, impossible; some limited evaluations, however, can be made. Another problem in judging the success of programs is the fact that many of them have not been in effect long enough to enable complete analysis.

Some of the programs to expand manpower resources in the nursing profession have been operational for several years. The previously outlined Health Amendments Act of 1956 provided funds to a total of 9,029 full-time nurse trainees between 1957 and 1962. During the first three years of the program, the total receiving such long-term grants numbered 3,851 and, during the next three years, the total was 5,178. Furthermore, in 1962, the largest number for any single year of training, 1,814 individuals, was assisted by the program. The short-term program in nurse-training, instituted in 1960, has shown even more rapid growth. During the first year, 2,364 nurses received assistance and, during the third year, 3,911 nurses received assistance toward training.[55]

Speaking of the same program, the Surgeon General's Consulting Group has stated:

> "The traineeship program has sharply increased the number of graduates from master's programs since 1956. It has increased full-time enrollments, decreased wasteful part-time enrollments, and stimulated hospital administrators and other employers of nurses to reexamine the educational preparation of their own personnel."[56]

Another report of the success of the Professional Nurse Traineeship Program reads, in part, as follows:

> "In the 1960 and 1961 followup, trainees were asked to provide additional information regarding any change in their level of responsibility following traineeship study. Of the 2,198 re-

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[50] Roma K. McNickle et al., Western Interstate Commission for Higher Education: *Planning Mental Health Programs*—Summary of a Regional Conference, Boulder, Colorado, February 1964, p. 62–63.

[51] Elmer L. Hill, *op. cit.*, p. xxxii.

[52] *Ibid.*

[53] Donald Yett, "The Supply of Nurses: An Economist's View," *Hospital Progress*, Vol. 46, No. 2, February 1965, p. 88.

[54] James P. Steffensen, *Merit Salary Programs in Six Selected School Districts*, U.S. Department of Health, Education, and Welfare, OE Bulletin No. 22, 1963.

[55] Elmer L. Hill, *op. cit.*, p. xxxiii.

[56] *Toward Quality in Nursing: Needs and Goals, op. cit.*, p. 41.

sponding, 56 percent said they were holding positions at a higher level.

> "That the program is effective is evident from the fact that 60 percent of the 9,029 nurses who received traineeships through 1962 studied at the master's level. Some of these women now have doctor's degrees and are functioning as deans of nursing schools in colleges and universities. Others with master's degrees are on teaching staffs or are supervising or administering nursing services in hospitals and other agencies."[57]

A five-year evaluation conference was held to assess the results of the Public Health Traineeship Program (Title I) in August 1963. According to the report issued by the conferees:

> "A total of 4,281 traineeships were awarded during the first seven years of the program's operation beginning in 1957. . . . Of the 4,821 trainees (of whom 50 percent were nurses), 2,462 or 58 percent were new to the field of public health, and another 23 percent had less than two years of public health experience.
>
> "There is no question that the trainees represent a significant increase in the number of trained public health personnel available for administrative, research, teaching and service positions. The previously existing downward trend in public health enrollments, reflected by a 50 percent decrease in the annual number of public health trainees between 1947 and 1955, was reversed. By the end of fiscal 1964, another 900 long-term trainees were added to the field of professionally trained public health personnel."[58]

This evaluation concerning the effectiveness of the training program is definitely encouraging, particularly insofar as it reversed a downward trend which otherwise might have been expected to continue.

With regard to the effectiveness of the National Defense Education Act, there appear to be "mixed reviews." According to Dr. Richard H. Bolt of the Massachusetts Institute of Technology, the Director of the Science Resources Planning Office, it has not been effective. A staff study prepared for the Committee on Science and Astronautics of the House of Representatives has noted:

> "For example, Dr. Bolt's study failed to show that the National Defense Education Act has had any influence whatever on the annual percentage of Americans getting college degrees—that is, its influence has been too small to be seen on the chart."[59]

On the other hand, under Title V, which provides federal matching funds for expanded counseling services to high school students (not previously discussed in this report, since funds are not made directly available to trainees), the ratio of counselors to students dropped from 1 to 860 in 1959 to 1 to 550 in 1962, an occurrence attributable totally to the NDEA program.[60] Recent reports indicate that a total of 314,000 students are currently borrowing funds for their education under Title II of NDEA.[61] Whether any such students would otherwise have been unable to continue their education without such loan funds is questionable, as Dr. Bolt implies; whether there is a qualitative improvement in students because of the funds, however, is possibly a more significant question. Whether relief from the necessity of working an excessive number of hours in outside employment has been made possible for students and whether a more capable group of students have continued their education through this legislation are two important indicators of success which cannot at this time be measured.

In the field of engineering, where the primary financial stimulus has been in salaries rather than student assistance, there was a measurable increase, particularly during the late fifties, in the number of entrants. Such increases, however, cannot be evaluated within the framework of "financing" as we are discussing it in this paper.

Some Problems in the Financing of Manpower

It remains, at this point, to indicate some of the problems, both major and minor, which are apparent in some or all of the schemes for the financing of trainees. Some problems are inherent and some may be eradicated entirely; some are currently observable and others are mere dangers. All, however, are potentially important.

Primarily there is the previously noted problem of the "push" versus the "pull" concept of financing. It appears that, in the final analysis, the answer lies in a balance between the two techniques. It must, furthermore, be found through analysis of the individual field of endeavor being considered. The problem of attracting more physicians into psychiatry is dissimilar from the problem of attracting more high school girls into nursing or, specifically, psychiatric nursing. The problem of attracting psychiatrists into and, especially, retaining them in public service, however, is not dissimilar from the nursing situation. Both are, in great part, problems of salary structure as well as problems of educational financing. In summary, then, a balance must be struck between allocation of funds for trainees and funds for increasing salaries of workers in mental health fields based upon the needs of the individual group.

The second major problem in the area of financing is that of coordinating funds among the various individual disciplines which comprise the mental health field. This problem was noted earlier, in that a balance among the varied occupations must be maintained. Further complicating the problem is the fact that the time necessary for training workers in the component fields varies greatly, from a few months to several years.

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[57] Elmer L. Hill, *op. cit.*, p. xli.

[58] *Ibid.*, p. 35.

[59] *Scientific and Technical Manpower: Supply, Demand, and Utilization*, Committee on Science and Astronautics, U.S. House of Representatives, 87th Congress, 2nd Session, U.S. Government Printing Office, Washington, D.C., 1963, p. 8.

[60] Report of the NDEA, *op. cit.*, p. 28.

[61] Irvin E. Walker and Pearl Peerboom, *Indicators*, U.S. Department of Health, Education, and Welfare, Office of the Assistant Secretary, January 1965, p. xi.

There are inherent problems of emphasis in the allocation of scholarship funds among students. A balance must be struck between ability and need in the issuance of funds. Often, ability is stressed at the expense of need, possibly in part because it is easier to set up criteria of ability than it is to establish need. To solve the quantitative problem within the area of manpower, the balance may perhaps require a shift toward the student in need. This problem may be further complicated because of the fact that capability is often measured by academic performance and members of disadvantaged groups tend to perform less satisfactorily than their potentialities warrant.

The transmission of information about financing mechanisms available for the training of students constitutes another serious problem area. Although there exists a diversity of programs to assist worthy students, many are not utilized merely because qualified applicants do not receive sufficient information about them. This problem is more prevalent at lower educational levels, where the high school student may eschew the idea of attending college because of self-perceived financial or other barriers. This lack of awareness of available funds, again, may often correlate closely with need for such funds. Perhaps the recent expansion in the counselor/student ratio will alleviate this problem to some extent.

A fear in the minds of many who are concerned about student financing is the possibility of controls being assumed by financing agencies. This has been most apparent in the field of medical education. Such controls would, if in fact imposed, be an unfortunate occurrence; such fears have not, in general, been realized thus far. Furthermore, there are some necessary controls over recipients of funds which the financing agent must reserve.

A problem which has been noted in the past has been the favoritism of large, already wealthy schools over small needy schools as recipients of grant moneys. This is of only indirect concern in the area of student financing; however, the ultimate consequences of this practice must be borne in mind.

Lastly, there is a rather specific financing problem in the sector of nurse-training. In the past, financing of student nurses was provided by the students themselves through the hours of work which they put in at the hospital where they received training. This situation has generally changed with the upgrading of the profession, to the point where most nursing students have the same financing problems as other college students, compounded by the specter of low ultimate financial reward to compensate for these hardships. When creating or expanding financing mechanisms for training nurses, this aspect must be kept in mind.

Despite these problems, however, it is quite apparent that financing funds made available to students can serve a most useful purpose if properly employed. The funds currently available appear inadequate to constitute a total solution to the manpower shortage. Nevertheless, a fuller utilization of funds available, an active participation by leaders in the mental health manpower field to direct more of the available funds into needed areas, and encouragement of the institution of new, well-directed financing mechanisms cannot but serve to alleviate current and future shortages.

TECHNOLOGICAL ADVANCES AND MANPOWER IN THE MENTAL HEALTH FIELDS

Although this paper deals with recent advances in the technology of mental health, it is important to understand the consistent trends in the relationship between technology and manpower in order to consider properly the present developments. Although a thorough history of the technology would have to go back to the days of Greek medicine, the rapid advances in the mental health fields since the middle of the last century allow that time as a convenient starting point.

It was the collective decision that mental patients were human rather than some subhuman species that made therapeutic efforts possible. Thus people such as Philippe Pinel, Dorothea Dix, and Clifford Beers might well be regarded as founders of modern psychiatric technology. The first men to take a real scientific interest in the mentally ill were men like Charcot, Kraepelin, and Janet. By the turn of the century, a new treatment technology, psychoanalysis, had begun that breakthrough which changed not only the field of mental health, but a whole culture. It is important to keep in mind that before the discovery of psychoanalysis there was no systematic method of treating the neuroses. Spontaneous remissions and occasional cures through hypnosis spotted the literature, but no one would have claimed that there was any recognized cure for the disease. Thus, those neurotic patients severely afflicted enough to be hospitalized were custodial patients somewhat comparable to the present day "back ward" schizophrenic. But by 1920, it was generally recognized that the neuroses could be cured, and even those who did not accept psychoanalysis as a theory were strongly influenced by its therapeutic methods.

Consider then the impact of this technological advance upon manpower in the mental health fields. Whereas before it had taken only a few attendants with minimal training to attend an hysteric or phobic patient, it now took a specialist who had undergone years of extremely arduous training. Not only this, but the custodial care of a neurotic took just a small proportion of the custodian's time, while psychoanalytic treatment took about five hours a week over a period of years of the time of a highly trained specialist. It might be claimed that psychoanalytic treatments still took less time because there was good hope that in four or five years the patient would no longer need any care at all, not even custodial, whereas without psychoanalytic treatment he would, perhaps, need custodial care for the rest of his life. Even if this argument were true, it fails to take into account the quality of the personnel needed as well as the quantity. A psychoanalyst is only remotely comparable to a ward aide, from the point of view of manpower.

Returning to the history, early in the century, the basis for general paresis was discovered and increasingly more effective methods of therapy devised. First, malarial fevers were induced to kill the syphilis spirochete; then Ehrlich's Salvarsan was used for the same purpose; and then, by midcentury, a broad range of antibiotics were available effective in curing syphilis and hence curing general paresis. Again we note that although the time taken may have been cut down, the quality of the time, the use of highly trained specialists, has increased. In the 1930's, two major advances were made which caused inroads into what had previously been the incurable segment of the patient population: the schizophrenics. These two advances were psychosurgery and Sakel's convulsion therapy. These two demanded increasing care by specialists.

The trend, then, is this: With increasing technology of any sort, in any field, there is an increasing trend toward highly educated, specialized personnel. An example of the generality of this trend is the comparison between the village blacksmith and the automobile mechanic.

Thus, contrary to George Albee's hope in 1957, research, far from being the answer to the mental health manpower shortage, has in the past compounded and will continue in the future to compound the situation. For increasing technology implies increasing knowledge, and increasingly knowledgeable administrators of that knowledge. In the 1950's the major breakthrough was the ataraxic drugs that cannot but have the effect described historically. In the 20 years preceding their discovery, clinical psychologists and psychiatric social workers had come to take a great budren off the shoulders of the psychiatrist by doing psychotherapy. But if, as seems not at all unlikely, psychotherapy is to some extent supplanted by chemotherapy, then these two professional fields will be of far more limited aid to the psychiatrist, and the burden of curing the mentally ill will fall on the shoulders of an increasingly specialized and increasingly small (in comparison to the total population) group of persons.

A precise description of the manpower implications of chemotherapy is beyond the capacities of the nonmedical writer; therefore, this paper will concern itself not so much with a demonstration of this continuing historical trend as with a brief look at some of the technological advances made in the last 10 years in a far more specific sense than we have thus far described, and with how these advances might affect the utilization of professional manpower. The paper will not limit itself only to chemotherapy, but will deal with convulsion therapy, psychosurgery, and some of the newer means of administering psychotherapy as well. (This latter topic is dealt with more thoroughly in the background paper on community mental health centers.)

This survey of techniques in the treatment of the mentally ill must necessarily begin with mention of chemotherapy, for, since the introduction of the phenothiazines in 1952, chemotherapy has produced revolutionary changes in practically every area of the mental health fields: hospital security measures have been relaxed, physical restraints practically abolished, open wards and outpatient clinics have become commonplace, and every effort is made to offer treatment in the community instead of in large hospitals. Along with changes in the physical setting for therapy, there have also been changes in treatment goals, for today the therapist is confronted with patients who are far more accessible; patients capable of being active partners in psychotherapy rather than passive receptors.[1]

It should be stressed, however, that, although supportive chemotherapy, in conjunction with psychotherapy, may make the patient more accessible to the psychotherapist and aid in establishing rapport, the most widespread utilization of psychotropic drugs is just that: an aid to the therapist. Dr. Gustav Heller, of Warley Hospital in England, has stated that, "relief should . . . never be obtained by drugs alone, and treatment must always consist of a combination of chemo- and psychotherapy."[2] In psychiatry as it is practiced in the United States, there need be no dichotomy between chemical and psychotherapy; the latter may be stimulated or accelerated by the former, but will probably never replace it.

In terms of the mental health manpower situation in the United States, this continuing chemical revolution has had its greatest impact in the development of a public health approach to mental hygiene. Present-day emphasis on community mental health centers, outpatient clinics and psychiatric wards in general hospitals has been accompanied by a shift in treatment patterns and a corresponding shift in manpower requirements. Maintenance of patients in large state institutions becomes more and more the last resort as a therapeutic measure rather than the only alternative, the need for custodial personnel is giving way to a demand for the integration of new types of ancillary personnel—along with professional medical therapists—into comprehensive treatment teams functioning on the local level. Such groups form an integral part of the community's overall prevention-treatment-rehabilitation mental health services.

Doctors Warren F. Gorman and John Vetner use the term "psychiatric-medical management therapy," to describe a treatment team composed of a psychiatrist, a general practitioner, and various medical therapists. Although electric shock therapy and drugs are employed, emphasis is on supportive psychotherapy and extensive manipulation of the patient's environment. While his family, friends, and business associates interact with the medical personnel to structure therapeutic environment, the patient is led to depend on and to accept the guidance and supportive therapy of his personal physician.[3]

Another instance of successful noninstitutional treatment involving the combined efforts of a general physician and a psychiatrist is reported in the December 1963 issue of the *American Journal of Psychiatry*. The author states that the family doctor can effectively treat late-life depressive reactions in his patients if they live in a supporting family milieu and respond to psychotherapy and the new drugs. Treatment is directed by a psychiatric consultant who helps select suitable patients and guides the doctor in selecting medications and in the techniques of psychotherapy.[4]

In the book *Introduction to Physical Methods of Treatment in Psychiatry*, Drs. W. W. Sargent and E. T. O. Salter state that psychiatric wards in the community's readily accessible general hospitals can also provide valuable "rapid" treatment. The authors believe that the best therapeutic effects are obtained when active treatment begins immediately after diagnosis is complete, especially in cases of schizophrenia. Such treatment can easily be provided for patients in the initial stages of all the major psychoses by special wards in general hospitals; and "where such facilities are available it will be found that patients appear for treatment much earlier than those seen in outpatient departments which serve exclusively a corresponding mental hospital." The doubtful prognosis which often results in cases of late diagnosis and lengthy institutional residence is thus avoided, and more effective use of personnel is obtained as they are engaged in positive steps towards prevention and care rather than in routine maintenance and custodial functions.[5]

Despite the growing acceptance of community-centered therapy, over one million mentally ill persons are still hospitalized annually in the United States. It is important to note, however, that the adverse effects of prolonged institutional care have been so stressed in recent years that modern psychiatric management considers it absolutely imperative that the patient be returned to the community as soon as possible. Dr. Jurgen Ruesch sums up much of the present-day thought concerning institutional care in the statement that "the psychiatric patient is not hospitalized for 'personality overhaul,' reeducation or psychoanalysis; he is hospitalized to survive a crisis."[6]

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[1] Fritz A. Freyhan, "The Modern Treatment of Depressive Disorders," *American Journal of Psychiatry*, Vol. 116, No. 12, June 1960, pp. 1057–1064.

[2] "Chemotherapy Called Good Psychiatric Tool," *Medical Tribune*, Wednesday, September 30, 1964.

[3] Warren F. Gorman, M.D., and John J. Vetter, M.D., "Psychiatric Medical Management," *Journal of the American Geriatrics Society*, Vol. 9, April 1961, pp. 288–293.

[4] Leon Zussman, M.D., and Louis Linn, M.D., "The Family Doctor's New Role on the Treatment Team," *American Journal of Psychiatry*, Vol. 120, No. 6, December 1963, pp. 553–560.

[5] Donald M. Coleman and Milton Rosenbaum, "The Psychiatric Walk-in Clinic," *Israel Annals of Psychiatry*, Vol. 1, April 1963, pp. 96–106, Abstracted in *Digest of Neurology and Psychology*, Vol. 31, June–July 1963, p. 263.

[6] Jurgen Ruesch, *et al.*, *Psychiatric Care: Psychiatry Simplified for Therapeutic Action*; Grune and Stratton, New York and London, 1964, pp. 124–125.

With every effort being made to restore the patient to the community, psychiatric hospitals have become more and more treatment-oriented and professional and nonprofessional hospital personnel have been required to transcend a mere caretaking function. For example, the nurse in the psychiatric hospital can interact with the psychiatrist and the patient and play an active role in producing therapeutic effects. Drs. Karel Phanansky and Roy Johnston report that on a ward of severely disturbed patients, on-the-spot nursing ward therapy by nurses and nurses' aides was an effective alternative to both mechanical and chemical restraints in most emergency cases. With removal of restraints, tension in the ward diminished and patients became more accessible to therapy.[7]

Techniques such as those described above involving nonprofessional personnel and automation have done much to increase the scope and efficiency of psychotherapy, yet it is important to note that development of these improved methods has occurred largely because recent advances in chemotherapy have produced a higher state of accessibility in patients formerly too functionally deteriorated to be responsive to psychotherapy. A typical case is described by Drs. Helen Hite and Manfred Braun. They state that chemotherapy was successful in bringing about a rapid clearing of hallucinations and delusional ideation in a group of catatonic schizophrenics who had been refractory to all previous treatment. With remission of their acute catatonic symptoms these patients could be reached: their altered state of accessibility allowed them to form interpersonal relationships and participate in various milieu, occupational, and group therapy programs.[8] Continued use of drugs is valuable adjuvant therapy in such cases, as they facilitate one-to-one psychotherapy by reducing tension and anxiety, thereby heightening responsiveness.

Despite its effectiveness as an adjuvant measure increasing the number of patients amenable to psychotherapy. and as a primary antischizophrenic agency, psychopharmacology has not supplanted other somatic forms of treatment, though their use has sharply declined. In regard to the status of these treatments, Dr. Jurgen Ruesch et al. write:

> "Extensive experience with electroconvulsive therapy, insulin shock therapy, and psychosurgery over the past quarter century has modified the initial enthusiasm for these forthright solutions to complicated problems and left us with clearer concepts of their usefulness. Sharp differences of opinion still exist about when insulin and psychosurgery should be used, if at all. Recent advances in psychopharmacology have tended to further limit their application by offering alternative somatic approaches to the patient."

As for electroconvulsive therapy, Dr. Ruesch states that it "has definitely not been supplanted by drugs, even though pharmaceuticals can be substituted in many cases."[9]

Writing in the April 1964 issue of the *American Journal of Psychiatry*, Dr. Lothar B. Kalinowsky agrees that ECT remains a valuable means of treatment which should not be hastily dropped in favor of "overrated" new techniques. He believes that because of its lack of complications and general therapeutic effect, ECT is superior to drugs in the treatment of depressions (where full recovery is common) and chronic schizophrenia.[10]

From the point of view of time and manpower requirements, ECT, like the other nonpharmaceutical somatic therapies, is a relatively costly mode of treatment. Consequently, efforts have been made to make better use of professional time and talent by making the treatment procedure faster and more efficient. For example, improved anesthetic agents such as intravenously administered brevital sodium have shortened the overall therapeutic process by removing the time- and energy-consuming task of persuading fearful, and therefore uncooperative, patients to undergo treatment. This technique also allows patients to awaken more rapidly and leave the treatment room, thereby freeing needed facilities.[11]

As in the case of electroconvulsive therapy, the use of psychosurgery makes severe demands on available mental health manpower. Nevertheless, the various psychosurgical techniques have produced improvements in many "hopeless" cases of depression, obsessive-compulsive behavior and disabling anxiety-tension states and, by enabling a significant number of these long-stay back ward patients to function adequately outside institutions, or at least without constant supervision within institutions, they have made possible a reduction in the number of *custodial* personnel required.

The importance of psychosurgical techniques is noted by Dr. William B. Scoville in a report concerning selective lobotomies in the *American Journal of Psychiatry*. Dr. Scoville writes that the selective lobotomy (orbital undercutting) is a particularly effective psychosurgical treatment which offers greater intensity than drug therapy and fewer relapses and less emotional blunting than long courses of shock therapy. Most of his patients receiving this treatment continued to improve over a 10-year period. There were few complications.[12]

A recent article by Dr. Sadao Hirose also notes the value of psychosurgery. His followup study of the effects of ventromedial undercutting on 77 patients resistant to previous nonsurgical treatments indicates that 55 percent of those undergoing psychosurgery were able to be discharged from an institution, while 80 percent of those remaining hospitalized showed significant improvement and were able to function on a much healthier level. Dr. Hirose concludes, however, that, in spite of its usefulness in the treatment of refractory psychoses, psychosurgery should be regarded as ". . . a kind of plastic surgery of mental states rather than a cure for the disease itself." [13]

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[7] Karel Phanansky and Roy Johnston, "Nursing Ward Therapy as an Alternative for Restraint," *American Journal of Psychiatry*, Vol. 118, No. 2, August 1961, pp. 148–151.

[8] Helen K. Hite, M.D., and Manfred Braun, "Effect of Resperine in Acute Catatonic Schizophrenia," *Journal of Clinical and Experimental Psychopathology and Quarterly Review of Psychiatry and Neurology*, Vol. 21, No. 3, September 1960, pp. 217–219.

[9] Reusch *et al., op. cit.*, p. 158.

[10] Lothar B. Kalinowsky, "Electric Convulsive Therapy After Ten Years of Pharmacotherapy," *American Journal of Psychiatry*, Vol. 120, No. 10, April 1964, pp. 944–949.

[11] William Karliner and Louis J. Padula, "The Use of a New Ultra-Short Acting Intravenous Anesthetic in Shock Therapy," *American Journal of Psychiatry*, Vol. 117, No. 4, October 1960, pp. 355–356.

[12] William B. Scoville, "Late Results of Orbital Undercutting," *American Journal of Psychiatry*, Vol. 117, No. 5, December 1960, pp. 525–531.

Other successful psychosurgical treatments include prefrontal sonic treatment, a technique involving the sonic introduction of lesions into the subcortex. Although these lesions are not permanent, as are those produced by lobotomies, a study of 185 patients treated with PST indicates that, after seven years, 42.5 percent of the psychotics and 57 percent of the psychoneurotics treated were able to engage in full-time employment in the community.[14]

Another approach in psychosurgery is that of Drs. H. G. Crow and D. G. Phillips. Their research indicates that retention of intellectual capacity and social judgment can be effected in cerebral surgery patients with a technique involving the use of chronically indwelling intracerebral electrodes in the frontal lobes. After the electrodes are implanted, a discrete focal leucotomy which is clinically and functionally reversible is produced by electrically polarizing one or more of the electrodes. This polarizing continues until lesions are produced which relieve symptoms without causing unwanted effects. This process is spread over a period of several weeks and the patient is allowed to return to his home, thus making it possible to determine the precise amount of destruction required to relieve the symptoms as they occur in his normal environment. The lesions are then made permanent by electrolytic coagulation and, in effect, the leucotomy has been tailormade to the patient's needs.[15]

It is readily apparent that psychosurgical treatments like those described above are extremely complex operations requiring a large number of highly skilled professional personnel and a great deal of time. Nevertheless, at present they constitute the only effective means of treatment for a significant number of mental conditions, although, as evidenced in the work of Drs. Crow and Phillips, new techniques continue to be developed.

In concluding this brief survey it should be noted that despite the gains made in the efficiency and effectiveness of therapy since the introduction of psychopharmacology, no real means of alleviation of the shortage of professional mental health manpower is likely to be revealed in this area.

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[13] Sadao Hirose, "Orbito-Ventromedial Undercutting, 1957–1963," *American Journal of Psychiatry*, Vol. 121, No. 12, June 1965, pp. 1194–1202.

[14] P. A. Lindstrom, *et al.*, "Pre-Frontal Sonic Treatment (PST)," *American Journal of Psychiatry*, Vol. 120, No. 5, November 1965, pp. 847–849.

[15] H. J. Crow, M.D., and D. G. Phillips, M.D., "Controlled Multifocal Frontal Leucotomy for Psychiatric Illness," *Journal of Neurology, Neurosurgery, and Psychiatry*, Vol. 24, No. 4, November 1961, pp. 353–360.

THE ROLE OF THE COMMUNITY MENTAL HEALTH CENTER IN ALLEVIATING THE MANPOWER SHORTAGE

Introduction

In addition to the emphasis on and concern over manpower, which is the focus of this publication, the necessity for a change in the character and use of facilities for the mentally ill has become increasingly evident if the shortage in the mental health professions is to be alleviated. This change is currently manifesting itself in a shift of emphasis to the community mental health center. As evidence of this shift, the reader's attention is called to the frequency with which the concept of community care is mentioned by respondents to surveys conducted among training directors and other psychiatrists as part of this study.

In order to understand how the community center may help to relieve the manpower shortage, a summary of the development and utilization of the center is necessary. The first part of this paper, then, is such a summary, describing and providing examples of the history, goals, services, and financing of the community mental health center, while the second part deals directly with the effect of the center on mental health manpower.

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> "I propose a national mental health program to assist in the inauguration of a wholly new emphasis and approach to care for the mentally ill. The approach relies primarily upon the new knowledge and new drugs acquired and developed in recent years which make it possible for most of the mentally ill to be successfully treated in their own communities and returned to a useful place in society. These breakthroughs have rendered obsolete the traditional methods of treatment which imposed upon the mentally ill a social quarantine, a prolonged or permanent confinement in huge, unhappy mental hospitals where they were out of sight and forgotten. . . . We need a new type of health facility, one which will return mental health care to the mainstream of American medicine, and at the same time upgrade mental health services . . . It [the community mental health center could be located at appropriate community general hospital . . . or function as an affiliate of state mental hospitals, under state or local governments, or under voluntary nonprofit sponsorship."[1]

With these words, which resulted on October 31, 1963, in the enactiment of Public Law 88-164, the Mental Retardation Facilities and Community Mental Health Centers Construction Act of 1963, President John F. Kennedy requested a "bold new approach" to the problems of mental illness, an approach which would insure a complete range of mental health services in the community. His action was the culmination of almost 20 years of technological and social change which was first given formal recognition in 1946 with the enactment of the National Mental Health Act, under the provisions of which the National Institute of Mental Health (NIMH) was founded in 1949. The NIMH has been active in support of research, training, and planning, on both state and federal levels, in the mental health fields.

In 1955, significant action took place at the federal level with the passage of the Mental Health Study Act, which created the Joint Commission on Mental Illness and Health to study the problems of mental illness in the United States and to make some specific recommendations for their alleviation. In 1960, after five years of research and evaluation, the Joint Commission published *Action for Mental Health* as a blueprint for future development and improvement of the care of the mentally ill. In 1961, a committee appointed by President Kennedy reviewed the report, and in 1963, on the basis of this review, he sent to Congress the above-quoted message urging legislation in support of the mental health movement.

The Community Mental Health Centers Act of 1963 (Title II of PL 88-164) authorizes $150 million for a three-year program (fiscal years 1965 through 1967) of aid to the states in the construction of community mental health centers. The appropriation will finance from one- to two-thirds of the cost of construction of an estimated 144 centers. Planning grants, administered by the NIMH, have already been given to 53 States and territories for the preparation of comprehensive, statewide, coordinated plans for the treatment and prevention of mental illness in the community. In order to qualify for construction funds, each state must designate a single state agency for the coordination and administration of the comprehensive plan, so that duplication of effort may be avoided.

The Short-Doyle Act for Community Mental Health Services, enacted in California on September 11, 1957, provides an example of legislation on the state level. According to M. E. Porter, M.D., then Director of Mental Hygiene in California, "the chief purpose of the Short-Doyle Act is to encourage the treatment of the patient in his home community in close collaboration with the family physician, the local general hospital, and the other agencies in the community that play a part in the prevention, alleviation, or rehabilitation of handicapping psychiatric disorders . . ."[2]

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[1] John F. Kennedy, ***Message Relative to Mental Illness and Mental Retardation,*** Hearings before the House of Representatives, 88th Congress, First Session, pp. 1–14.

This concept was reiterated by Daniel Blain, M.D., Director of the Department of Mental Hygiene in 1960, when he stated that, "increasing demands [will be made] on the relatively few personnel available to develop local services as part of the Short-Doyle program."[3]

Great similarity is evident between the provisions of the Short-Doyle Act concerning the services to be offered by the centers, and those later outlined in federal legislation. Both, for example, are based on the belief that most mentally ill persons need not leave their communities or drastically interrupt their useful roles in society.

As evidenced by continuing legislation at all levels, the community mental health center is finding increasing support as the new approach to the problem of mental illness. And the fact that the federal government has taken official action is a result as much as a cause of the growth of these centers. The need for a new type of health facility became urgent around 1955, when widespread use of tranquilizing and energizing drugs rendered formerly hopeless patients accessible to therapy, and enabled many to return to their homes. New methods of therapy, including milieu, occupational, and group therapy and family counseling, have added to the number of patients released each year. The number of patients resident in mental hospitals has decreased every year since 1956, even though the population of the country has increased. A serious problem was encountered, however, with many patients who were released after several years of institutionalization; unable to readjust to life in the community, they soon returned to the hospital. This trend was further stimulus toward the construction of community mental health facilities.

The goal of these facilities, simply stated, is to provide the patient, in his own community, with a continuum of mental health facilities designed to meet all of his mental health needs. (A possible exception is the acutely ill patient requiring long-term hospitalization.) The community plan should provide organized community action for the diagnosis, treatment, rehabilitation, and prevention of mental illness, and should utilize the combined public and private resources of the entire community.

The advantages of treatment in the community over treatment in a state hospital are, in most cases, outstanding. The patient is able to maintain contact with his family and friends, so that the shock of separation from his former environment is dramatically reduced. Often, the patient takes a leave of absence from his job rather than quitting it altogether. This is possible because the length of treatment is much shorter than in a state hospital. The atmosphere of the smaller center is more personal, and a wider range of continuous outpatient and aftercare services is feasible. And finally, each mental health center can and should be tailored to the needs of the community it serves.

The above-mentioned goals are being met by a variety of techniques (as distinguished from services, which will be discussed later), many of which might not be applicable to a state institution. These techniques include:

Continuum and Flexibility of Treatment. Since most patients will require more than one of the services offered by the mental health center, it is necessary that there be no artificial or administrative barriers between these services, but that any person eligible for one of the facilities be eligible for all, with each service mutually dependent upon the others. Also, there should be no prescribed pattern of treatment; management of each case should be flexible, based on the needs of the individual patient, with varying combinations of services employed.

Coordination and Integration of Community Services. Aid to the mentally ill can hardly be attempted without some concern for the circumstances which caused the illness. No one aspect of the patient's life can be considered apart from his total life situation. Therefore, full integration of mental health services with social, educational, health, and welfare services is necessary to avoid duplication of services as well as to insure the most effective treatment possible.

Outpatient Care Distinct from and not Necessarily Following Inpatient Care. Many patients who could receive only inpatient care at a state institution require only part-time or outpatient care in their own communities.

Short-Term Therapy. When a time limit of, for example, six weeks is set on the availability of facilities, the patient realizes that he cannot settle down to be taken care of, but must begin immediately to adjust to his life-situation. The aim of the mental health center in many instances is to assist the patient in overcoming mental disorder associated with a life crisis or continuing stress. In such cases, short-term therapy is generally more effective than lengthy institutionalization.

Stressing Responsibility of the Patient for Himself. Since, in all likelihood, the patient will return to substantially the same environment which triggered his disorder in the first place, he must learn to cope with the stresses he will meet. One step in this process is the realization on the part of the patient that he is responsible for himself. The mental health center may stress this responsibility through an open-door policy, through occupational therapy programs, by expecting the patient to care for himself, or in any of a number of different ways.

Drug Therapy. Most community centers use tranquilizing and energizing drugs to some extent in order to be able to treat patients who otherwise would have to be sent to the state hospitals. Other advantages of drugs are that they conserve expenditures of money and manpower, that they can be used in conjunction with psychotherapy, and that intelligence and language difficulties do not seriously affect drug action.

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[2] Portia Bell Hume, *The Short-Doyle Act for Community Mental Hygiene*, pp. 7-8.

[3] Daniel Blain, M.D., "A Program for Mental Hygiene in California," *California Medicine*, Vol. 93, No. 5, pp. 263-268.

Service for the Total Community. The community mental health center should include services for patients of all ages, from school children to geriatric patients, as well as for deviant groups such as alcoholics and juvenile delinquents. Each center may be fitted to the needs of its community in such a way as to make isolation in a state institution virtually obsolete.

Preventive Care. One of the greatest advantages of the mental health center over the state hospital is the increased opportunity for preventive care. In many cases it is possible to forestall the necessity for lengthy hospitalization through the use of emergency services, immediate on-the-spot treatment, and various combinations of consultation and outpatient services.

Social Interaction Therapy. As opposed to traditional one-to-one psychotherapy, this type of therapy includes such methods as group and occupational therapy and family treatment.

Institutional Overlap. This practice represents the sharing of professional personnel and the cost of salaries and facilities by two institutions. The aim of this overlap is to place emphasis on the patient and his needs rather than on how and by whom service is rendered.

These techniques are being implemented through a number of different services and facilities, many of which break sharply with tradition and would be inappropriate or impossible in a state institution. The following listing gives a brief description and example of each type. The first five are those deemed essential by the federal government, and are required in order to receive construction funds. They may be taken as a basic, although not the complete, definition of the community mental health center.

1. *Inpatient Services* make use of all the customary treatment modalities, including psychotropic drugs, individual, group and family therapy, occasional shock therapy, and occupational and milieu therapy. Treatment at Northern State Hospital, Washington, is based on the concept of encouraging the patient to be as self-sufficient and responsible as he can. Rapid service is stressed, and treatment generally begun within two hours of arrival, with the result that the average length of stay is only 22 days. As soon as he is able, the patient is transferred from the inpatient service to the readjustment section which approximates community life. Occupational and industrial therapy are widely used. Consultations are held with family and physician, and the services are coordinated with all available public rehabilitation facilities. The results of this program have been so satisfactory that, of 72 patients admitted during a six-month period, 66 returned to the community, and only six were transferred to other facilities.[4]

2. *Outpatient services* include a network of therapeutic programs for the patient who does not require hospitalization, and often for his family as well. The psychiatric Receiving Center of the Greater Kansas City Mental Health Foundation, Kansas City, Missouri, offers a total of eight therapeutic groups for patient and family, including: expressive-interpretive group designed for patients with neurotic and psychosomatic disorders; interpersonal management group, for patients with aggressive reactions; emotional rehabilitation group, dealing with withdrawn patients; social-emotional group, for patients with mixed reactions; ad lib group, for special training, and individual therapy. For the family of the patient, there are two groups: problem focus group, for disturbed relatives; and reality focus group, for those who merely need help in adjusting to the problems of the disturbed member of the family.[5]

3. *Part-time hospitalization* is available in some mental health centers only to those patients who have already made use of inpatient facilities, while in others, admissions are made directly on part-time status. These facilities may include day, night, and/or weekend hospitalization programs, with roughly the same therapeutic benefits provided by inpatient programs. It has been estimated that approximately half of the patients formerly committed to state hospitals could be handled in day care centers. These centers cost less to maintain, cause fewer dependency and regression symptoms among patients, and provide for better maintenance of family and community ties. At the Manhattan Aftercare Clinic, Manhattan, New York, results of treatment of a number of acutely disturbed relapsing ex-patients who had been treated in the day hospital were compared with results of treatment of a similar group that had been returned to the state hospital. The findings of the project, which was financed by an NIMH grant, were that acutely psychotic symptoms were relieved within seven weeks; day center patients were able to return to their normal life situations, including their jobs, sooner than inpatients; and remission of symptoms among day center patients was as permanent as for the hospitalized group.[6]

4. *Emergency facilities* range from a psychiatrist on call to a fully staffed, 24-hour-a-day walk-in clinic with immediate service. The Pinellas County, Florida, Health Department Emergency Psychiatric Service, although not directly affiliated with a community mental health center, employs emergency teams which include a doctor and a public health nurse, with psychiatric consultation available at all times. During the first year of operation, 1,215 emergency calls were received from families and friends of disturbed persons, as well as from the police. Of the recipients of

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[4] *Community Mental Health Advances*, U.S. Department of Health, Education, and Welfare, Public Health Service, April 1964, p. 17.

[5] Raymond Glasscote, et al., *The Community Mental Health Center: An Analysis of Existing Models*, p. 93.

[6] *Community Mental Health Advances, op. cit.*, p. 16.

this emergency service, 44 percent were able to remain at home, 8 percent were referred to nursing homes, and 44 percent received evaluation and/or treatment in local general hospitals, with the result that new admissions to Florida state hospitals from Pinellas County have been reduced, even though the population of the county has increased.[7]

5. *Consultation services for other community agencies* provide case-centered or educational consultations with psychiatric personnel for schools, courts, ministers, public health nurses, general practitioners, and/or policemen. Consultation services bridge the gap between the mental health center and the community, providing an opportunity for two-way communication. Dr. Howard Gurevitz, M.D., chief of consultation, information, and educational services at the San Mateo Center (California), feels that, in the near future, "priority for expansion . . . of indirect services, relative to population increase, will far exceed that of direct clinical services."[8] Also according to Dr. Gurevitz, "The term [consultant] is applied to the activities of a mental health specialist whose job it is to help a caretaking agency or person deal more adequately with mental health problems related to his basic task."[9] The San Mateo County Mental Health Center makes no charge for consultative services to schools, courts, public welfare agencies, public health nurses, and ministers. Seminars for general practitioners are also sponsored.

At least five additional services may also be deemed desirable, although not essential, for adequate care.

1. *Transitional and placement services and aftercare* include halfway houses, vocational placement, and foster home or nursing home placement. An interesting halfway house is Wellmet, established in 1960 by Harvard and Radcliffe students, with the help of faculty and professionals in the mental health field. The students raised funds for a "cooperative house where they could live with carefully selected chronic patients from the hospital" and share with the patients the responsibilities and duties of managing the house. Professional consultants for Wellmet include a psychiatrist, a psychologist, and a social worker. The house itself is pleasant and informal, a part of the surrounding community. The students serve as role models, with the goal of restoring the ability of the patients to function in everyday situations. Wellmet is still in an experimental stage, but this noninstitutional environment seems definitely beneficial to the apathetic, isolated, or dependent patient.[10]

In Missouri, a successful patient placement program was initiated in 1956 at the Fulton State Hospital. Although this program is not affiliated with a community mental health center, it does deal with the patient in the community. Under this program, patients ready to be discharged, but with nowhere to go, are placed in licensed nursing homes, boarding homes, and foster homes. During the first six years of operation, only 64, or less than 7 percent, of the patients placed have had to return to the hospital. Payments to the different types of homes come from federal, state and county funds, as well as from personal and family income. "The placement program contributes [to the provision of modern care and treatment for the mentally ill] by enabling homeless patients who are able to leave the hospital to do so, by reducing overcrowding at the hospitals, and by extending the potential treatment resources of the state hospitals."[11]

The Jewish Employment and Vocational Service, Philadelphia, Pennsylvania, provides a job training and placement program. The training situation consists of sheltered workshops with increasing emphasis placed on performance and interpersonal relations. Of 339 persons referred to this service, all of whom were previously considered unemployable, 55 were placed in positions which they still held after a six-month followup.[12]

2. *Rehabilitation services,* which may overlap to a certain extent with job placement services, include industrial, occupational, vocational, and recreational education and therapy. Work-for-pay programs are often used to help the patient become responsible for himself. The Nebraska Psychiatric Institute at Omaha, Nebraska, in cooperation with the state's Rehabilitation Division and Employment Service and the Goodwill Industries, provides vocational counseling, testing, training and education, work adjustment, and both sheltered and competitive job placement, guided by a full-time vocational rehabilitation counselor. Duties of the patients in occupational therapy "range from unskilled to moderately skilled jobs, and duty hours from 30 minutes to several hours a day."[13] The results of such programs are often striking. Robert Felix, M.D., former director of NIMH, describes the results of a study of the vocational rehabilitation of mental patients which "showed that a program costing $53,000 yielded reduced hospital costs of $449,000, and the production of annual wages by the released patients of $256,000."[14]

3. *Community education services* are designed to aid professional groups, other than those directly involved in mental health, to handle the emotional problems which they encounter in their own clients. Perhaps the most important of these professional people are the general practitioners, who may be consulted almost as often for latent emotional difficulties as for purely physical complaints, and who therefore often have the first opportunity to observe potentially dangerous mental difficulties. A psychiatric seminar

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[7] *Ibid.*, p. 15.

[8] Howard Gurevitz, M.D., "Programming for Consultation Services," *Hospitals, Journals of the American Hospital Association*, Vol. 38, No. 3, pp. 93–100, February 1, 1964.

[9] *Ibid.*, p. 95.

[10] David Kantor, M.S.W., and Milton Greenblatt, M.D., "Wellmet: Halfway to Community Rehabilitation." *Mental Hospitals*, Vol. 13, No. 3, pp. 146–152, March 1962.

[11] N. Francille Bailey, M.A., and Edward L. Davis, M.S., "Missouri's Patient Placement Program," *Ibid.*, pp. 170–171.

[12] *Community Mental Health Advances, op. cit.*, p. 11.

[13] Glasscote, et al., *op. cit.*, pp. 193–201.

[14] Robert H. Felix, M.D., "Our Present Prospects and the Task Ahead," *Comprehensive Psychiatry*, Vol. 4, No. 6, p. 373, December 1963.

for general practitioners at City Hospital, Elmhurst, New York, supported by a United States Public Health Service grant, attempts to give the general practitioner greater psychiatric orientation by acquainting him with basic psychiatric concepts and methods of dealing with the psychiatric aspects of physical illness. The program runs for a full year, at the end of which time the physician receives a certificate stating that he has completed the basic course. Interested physicians may be given the opportunity of doing brief, supervised psychotherapy. Other professional groups for whom this hospital provides seminars are: clergymen, to aid them in distinguishing between religious problems and psychiatric ones; teachers, "to make school personnel more perceptive in spotting early signs of trouble and more effective in utilizing the therapeutic resources of the community"; and lawyers, since emotional or psychological undertones are present in so many of the matters brought to the attorney's office. A school for the parents of disturbed children is also being established, with both classroom and free discussion utilized.[15]

4. *Research and training facilities* are found most often in those mental health centers affiliated with university medical centers. The Massachusetts Mental Health Center at Boston, Massachusetts, one of the teaching hospitals of the Harvard Medical School, has a research budget of almost $1,000,000 a year, and employs around 200 persons. In 1964, more than 25 major research projects were in progress in all areas of the mental health field. As for training, "the center is approved for three years' residency in psychiatry, and two in child psychiatry. The research training program in mental health provides nine full-time postgraduate trainees with an in-service training program in one of seven different laboratories in the center and at the Harvard Medical School. There are extensive training programs in psychology, nursing, social work, and occupational therapy." Research and training facilities in this center are among the most extensive in the world.[16]

5. *Preventive services* are usually considered with emergency services. However, the Greater Kansas City Mental Health Foundation, Kansas City, Missouri, has a separate department of prevention which tries, through research and demonstration, to "identify the major factors in the community that produce difficulty for the people who live there, to experiment with methods of changing or eliminating such factors, to test the results of research through demonstration programs, and then to work with community agencies as they attempt to apply the findings of such studies." The concern of the department is for the average resident in the community, not only for the mental patient. The aim of the program is to "[increase] the capacity of people to live more satisfying lives." Two psychologists, a coordinator who works with the public schools, a research intern, and two clerical employees staff the program.[17]

Services for specific groups among the emotionally disturbed include those for children and adolescents, alcoholics, narcotics addicts, the mentally retarded, and the elderly.

Services for Children and Adolescents. Although many community mental health centers have no special facilities, the Albert Einstein Medical Center of the Bronx Municipal Hospital, Bronx, New York, maintains a children's inpatient service of 13 beds. A full staff of psychiatric personnel offers psychotherapeutic services for parents as well as for the children, and a special school is also provided.

Outpatient services include a general psychiatric and a psychotherapy clinic, which employ drugs and active environmental work, as well as more traditional therapeutic approaches. During 1963, a total of 287 children were seen in outpatient clinics.

The service for adolescents accepts girls and boys between the ages of 12 and 17, with a maximum stay of six weeks and an average stay of three weeks. Treatment includes "daily group meetings of patients, and of patients with staff, individual therapy and counseling, ancillary programs, and work with families and community agencies."[18]

Outpatient adolescent treatment consists of one or two hours a week of analytically oriented psychotherapy. In both services, evaluation of the patient is emphasized, and about half of the patients in the inpatient clinic are referred to state hospitals.

The School Mental Health Unit of Rockland County, New York, is a consultative service established in 1957 to assist school staffs in the emotional education of all of the county's children. The school unit aims to support and mobilize the psychological programs already offered by the school and community, and to aid in raising the level of emotional health of each individual child in the school system. The consultative service is staffed by a half-time psychiatrist, a full-time clinical psychologist, a psychiatric social worker, and a secretary.[19]

Services for Alcoholics. Although many centers have no special provisions for alcoholism, most will treat the psychotic alcoholic in their regular programs. One center with a fairly extensive service for alcoholics is the Mental Health Service of San Mateo County, California. Although only four beds are available for inpatient care of the most severely disabled, 32 percent of admissions in 1963 were for alcoholism, a larger percentage than for any other diagnostic category. Many of these patients were hospitalized in the psychiatric ward. Others were referred to the center's outpatient alcoholism clinic, or to Alcoholics Anonymous or other facilities. Under the administration of the rehabilitation service, the alcoholism clinic provides "individual psychotherapy, joint treatment of patients and spouse, group therapy for couples, and medication.'' Staffed by a team of psychiatrist, psychiatric social worker, and internist, the clinic combines a psychiatric with a medical approach.[20]

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[15] Leopold Bellak, M.D., "A General Hospital as a Focus of Community Psychiatry," *Journal of the American Medical Association*, Vol. 174, No. 18, pp. 2214–2217, December 31, 1960.

[16] Glasscote, et al., *op. cit.*, pp. 193–201.

[17] *Ibid.*, pp. 83–104.

[18] *Ibid.*, pp. 201–214.

[19] Margaret Moran Lawrence, M.D., et al., "Analysis of the Work of the School Mental Health Unit of a Community Mental Health Board," *American Journal of Orthopsychiatry*, Vol. 32, No. 1, pp. 99–108.

Services for Narcotics Addicts. Few centers have programs specifically designed for the treatment of narcotics addicts, although an occasional barbiturate addict may be treated in the regular inpatient program. Most addicts who come to the centers are referred to institutions specializing in the treatment of such cases.

Services for the Mentally Retarded. Many centers accept only those retarded persons who are undergoing an emotional crisis. However, the children's clinic of the Jacob L. Reiss Mental Health Pavilion, St. Vincent's Hospital, New York, provides an extensive education and consultation service for retarded school children. ''The children's clinic does a great deal of work with moderate and educatable retardates. Classes of about 15 students each, for a total of 129 retarded children, are run by the special education department of parochial schools, with psychiatric consultation provided by St. Vincent's. One resident is assigned to each class, and the teacher is free to call him at any time.'' [21]

Services for the Elderly. Few mental health centers are prepared to accept geriatric patients, since there are usually no facilities for permanent residence, and since it is often necessary to impose a limit on length of stay. The Yorkton Psychiatric Centre, Yorkton, Saskatchewan, provides a good example of how the elderly person with treatable psychiatric illness may be accepted and treated on the same basis as other patients. A plan is being worked out whereby hospital and family would both care for the patient on a rotating basis.[22]

Physically, community mental health centers are housed in a variety of different structures, from the impersonal style of the traditional mental institution to modern buildings especially designed and constructed with light, airy wards and attractive therapeutic color schemes. Of the opportunity now offered to plan and execute an entirely new type of mental health facility, Norman W. Patterson, of a San Francisco architectural firm, says, ''The architect is challenged by advances in psychiatry to create new designs to implement new concepts of psychiatric care. Increased community responsibility for treatment establishes a wider range of services, with newly designed psychiatric facilities providing more individualized care . . . The trend today is to provide an open, comfortable atmosphere . . .'' [23]

Most community mental health centers constructed today have private rooms or small open wards, and fit well into their physical surroundings. Ideally, planning for the centers begins with an understanding of the persons who will be seeking treatment, and of the facilities that are already available to these persons.

Community mental health centers are often housed in general hospitals. Costs are obviously greatly reduced in this way, although the atmosphere is seldom ideal for the mental patient. The general hospital does have the advantage, however, of being easily accessible to a large segment of the population. For this reason, many hospitals have an emergency service, even though they may have no other psychiatric facilities. The El Paso, Texas, County Hospital is used for the treatment of many patients who otherwise would probably have to be sent to Big Springs State Hospital, 400 miles away. The county furnishes beds, nursing care, medicine, and space for an outpatient clinic; the state pays for professional services. In addition to providing treatment, local psychiatrists decide which patients may be treated at the county hospital. As a result of these community facilities, only 97 patients from El Paso were admitted to the state hospital during a seven month period, as opposed to the 324 who would have been expected. Length of stay in the county hospital averages only nine days. And finally, through the outpatient facilities, many less seriously disturbed persons were reached and treated.[24]

Another mental health center housed in a general hospital is the Psychiatric Center of City Hospital at Elmhurst, New York City, which has 120 beds and a staff of 12 psychiatrists, 15 residents, 10 psychologists, six social workers, and recreational and ancillary personnel. Main features of the program are psychiatric seminars for general practitioners, chaplains, guidance teachers, and lawyers (described above), and a troubleshooting clinic. Instituted in 1958, the troubleshooting clinic offers first aid for emotional problems. It is not, however, merely an emergency service, in that it does not deal only with urgent crises. The director of psychiatry at Elmhurst, Leopold Bellak, M.D., says of the clinic, ''We want to teach our population that to deal with more or less minor disturbances is often the soundest way to avert potentially serious difficulties. We want our people to know that there is a place where they may receive competent information in many areas . . . The troubleshooting clinic is such a place; anyone may walk in and simply talk things over. It is in this respect that the troubleshooting clinic differs somewhat from other hospital programs: it is geared to offer on-the-spot treatment for troubled feelings and the vexing, ordinary problems of everyday life.'' [25]

Main sources of funds for community mental health centers are federal, state, and local taxes; private funds such as Community Chest; individual private funds or contributions, including payment on a fee-for-service basis; and health insurance payments.

In the area of federal support, the Community Mental Health Centers Act of 1963 (Title II of PL 88-164), referred to previously, appropriates a total of $150 million for the fiscal years 1965 through 1967, to be used to build community mental health centers as the core of a national program. These federal grants are to be allotted to the states "on the basis of population, financial need, and extent of the need for community mental health centers.[26] The money is to be distributed over the three-year period, with $35 million in grants allotted for 1965, $50 million for 1966, and $65 million for 1967. Of this money, each state will receive a minimum grant of $100,000 for each of the three years, to cover between one- and two-thirds of the cost of construction.

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[20] Glasscote, et al., *op. cit.*, pp. 45–66; and *News Release from the AMA: A Community Approach to Mental Health*, October 28, 1964.

[21] Glasscote, et al., *op. cit.*, pp. 165–182.

[22] *Ibid.*, pp. 67–72.

[23] Norman W. Patterson, "Implementing Concepts through Design," *Hospitals, Journal of the American Hospital Association, op. cit.*, pp. 55–62 .

[24] *Community Mental Health Advances, op. cit.*, p. 16.

[25] Leopold Bellak, *op. cit.*, pp. 2214–2215.

In order to qualify for the construction grant, each state must provide a central agency and workable administrative system, and provide that adequate financial support will be available at the state level both for construction and for operation of the center after completion.

State and local governments will also subsidize the centers, through community mental health services acts, and the cooperation of private sources of funds such as united community funds, foundations, business organizations, and individuals will be sought. Staffing and continued functioning of the centers will be financed by the state and local communities; although President Kennedy originally intended that staffing and operation be partially financed by federal funds, Congress decided to appropriate no money for staffing.

The Short-Doyle Act of California provides a good example of financing on the state level.

> "While the Short-Doyle Act carries a state reimbursement to match the funds appropriated by local governments for mental health services to only voluntary patients who are unable to obtain private psychiatric care, the consequent expansion of psychiatric services in general hospitals and clinics is bound to indirectly benefit all patients whether they are voluntarily or involuntarily receiving care . . . The Community Mental Health Services Act is simply a legal instrument that recognizes the joint responsibility of private enterprise and government at all levels to promote mental health through both therapeutic and protective services." [27]

Most centers charge a fee for their services, based usually upon the financial status of the patient. There is a growing interest in prepaid mental health insurance plans. Recent actuarial studies, including one conducted by Group Health Insurance, Inc., of New York, under a federal grant, show that much broader coverage of mental illness is not only feasible, but could be profitable to the insurance companies. For this reason, insurance representatives are often requested to cooperate in discussing treatment costs in the planning of a new center.

Walter J. McNerney, president of the Blue Cross Association, says of the role of insurance in the planning of the mental health center, "With the current surge [toward mental health care in the community], prepayment is embarking on a challenging course. It must respond to and even encourage the demand for broader benefits . . . Money paid to the providers of services through prepayment must encourage the growth of *needed* facilities and programs, but only those operating according to proper standards of performance." [28]

One of the most recent expressions of widespread interest in the application of voluntary health insurance to mental health coverage is the plan which provides "coverage for the in-hospital and outpatient treatment of mental illness and nervous disorders . . . as a result of the contracts which auto workers signed with the automotive and farm implement manufacturers." This contract calls for benefits to automotive industry workers, their dependents, and retired employees. Full payment of hospital and medical expenses for hospital confinement is guaranteed up to 45 days, with benefits renewable after 90 days. A maximum of $400 is imposed on outpatient benefits, with a sliding scale of deductibility. This plan will utilize the services of physicians and facilities in the community.[29]

The daily cost per patient is much higher in the mental health center than in the state hospital, but because the length of stay is so much shorter, the overall cost is less. As Frederick A. Lewis, Jr., M.D., says in his article on the care of psychiatric patients, "The citizens of our country have yet to be convinced that by spending some of their tax dollars now for facilities at the local level they will be able to avoid much greater expenditures at the state level in the not too distant future." [30] For example, in 1963, San Mateo County, California, was spending $38.25 per patient per day, compared to $6.20 in the state hospital. But, because San Mateo was able to provide one psychiatrist for every five patients and the state one for every 300 patients, the average length of stay in the community center was only eight days, as compared with six months in the state hospital. And the average cost per patient to the state was $1,128.40; to the county, only $267.75.[31] Of course, this comparison is not strictly accurate, in that the most seriously disturbed patients, requiring long-term therapy, must be referred to the state institution. Still, the savings, in time and money, are significant, and admissions to the state hospital serving San Mateo County have dropped sharply, while admissions rose 61 percent for the other four bay area counties.

II

Having examined the current trend toward community mental health centers, the question remains: In what ways does this trend affect the manpower shortage in the mental health fields? That such a shortage does exist is difficult to deny; but estimates of the severity of the shortage vary widely. George Albee, for example, estimates that, in order to meet the recommendations of the Joint Commission on Mental Illness and Health, if one community mental health clinic were established for each 50,000 of the population, the United States would need an additional 2,200 psychiatrists, 2,500 psychologists, and 5,200 psychiatric social workers by 1965. And these figures would be valid only if every one of these hypothetical professionals were to go into practice in a community center rather than into private practice.[32] It is, however, possible to take a more optimistic view of the manpower situation. Blue Cross, for example, points out that "the present personnel shortage masks the significant increases that have occurred in these core professions since 1950."[33] This report goes on to show that, during the 10-year period from 1950 to 1960, the number of practicing psychiatrists doubled and that, during the same period, the four core mental health professions grew more rapidly than health professions in general. It is certainly true, nevertheless, that there is a real danger that community mental health centers will be built faster than they can be staffed.

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[26] *Community Mental Health Advances, op. cit.,* p. 1.

[27] Hume, *op. cit.,* pp. 7–8.

[28] Walter J. McNerney, "Comment," *Blue Cross Reports,* Blue Cross Association, Vol. 2, No. 3, July–September 1964.

[29] Frederick A. Lewis, Jr., M.D., "Community Care of Psychiatric Patients Versus Prolonged Institutionalization," *Journal of the American Medical Association,* Vol. 182, No. 4, pp. 323–326, October 27, 1962.

[30] *Employee Benefit Plan Review,* Research Paper, 325.3-3, 10–64.

[31] Glasscote et al., *op. cit.,* pp. 45–66; *News Release from the AMA, op. cit.;* and U.S. Dept. of H.E.W., P.H.S., *Concept and Challenge: the Comprehensive Community Mental Health Center,* pp. 18–19.

And no matter how great the increase in absolute numbers of mental health personnel, unless a large majority of these newly created professionals were to go into community or state service, even though private practice pays much better and commands more prestige, the result would be only a negligible increase in the care available to a large percentage of the population. As Eli Ginzberg puts it, ". . . while the psychoanalyst in private practice is able to complete the treatment of 5 to 10 patients during the course of a year, the psychiatrist in a mental hospital is usually responsible for the care of more than 200 patients—all of whom are seriously ill, though many may no longer be amenable to treatment."[34] One possible solution to this problem is to offer private practitioners courtesy privileges in the community mental health centers, and to encourage them to utilize the facilities available, in order to orient them to hospital service. Utilization of private practitioners on a part-time basis might also be feasible, if salaries could be made attractive enough.

In the community mental health center, as in other mental health fields, the two major keys to supply are utilization, touched on briefly above, and education. A new kind of health facility will require a new kind of training. Nicholas Hobbs, M.D., expresses the vital importance of the development of this new kind of training when he writes,

> "Here is a bold and imaginative proposal that may fail because top-level mental health personnel may not be prepared to discharge the responsibilities of a comprehensive community mental health program . . . There is a chance that the new mental health centers will be nothing more than a product of the general urbanization of America, a movement from country to city . . . there is a real danger that we shall succeed in changing only the location and architecture of the state hospital. If the new centers turn inward toward the hospital, they too will be monuments to failure. If they turn outward to the community . . . who among us will know what to do? Psychiatrists, social workers, nurses, and psychologists have been trained primarily as clinicians, as intrapsychic diagnosticians, as listeners with the third ear; we are clinicians, not public health, mental health experts. Who among us knows enough about schools, courts, churches, welfare programs, recreation, effects of automation, cultural deprivation, population mobility, delinquency, family life, city planning, and human ecology in general to presume to serve on the staff of a comprehensive mental health center? The first training program we plan should be for ourselves."[35]

It is becoming increasingly obvious that the education of mental health professionals must conform to emerging patterns of care as knowledge and understanding of mental illness increase.

One way of insuring that the psychiatric student will be able to break away from the traditional pattern of either private or state institutional practice is to provide training programs in the community mental health center itself. Many centers already make use of psychiatric residents, and many are affiliated with university medical schools. The community mental health center provides an excellent training ground because the resident is able to study all types of disorder early in their development, and to deal with many cases on a preventive or emergency basis, rather than in an institutional setting.

Another important area of interest in the consideration of manpower and the mental health of the community overlaps both education and utilization. Since it is obvious that a sufficient increase in professional mental health personnel does not seem likely in the near future, use must be made of other professionals in the community. As exploration continues in the areas of mental health care that can be handled by professional groups such as general practitioners, clergymen, teachers, and lawyers, the role of the psychiatrist may develop into that of leader and consultant for a team of professional and ancillary personnel. Of these professional groups, the general practitioner is perhaps the most important in mental health care. The emotionally disturbed person will often see his family doctor before seeking psychiatric help. For this reason, with a little training in psychiatry, the general practitioner can be useful in the treatment of minor conditions, as well as in case finding and referral. The family doctor may be valuable, too, for followup visits and in continuing relationships.

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[32] George Albee, "Discussion of *Action for Mental Health*," Perspectives, Newsletter of the Conference of Chief Psychologists in State Mental Health Programs, Supplement to Vol. 3, No. 1, p. 2, 1961.

[33] *Blue Cross Reports, op. cit.*, p. 10.

[34] Eli Ginzberg, *Human Resources: The Wealth of a Nation.*

[35] Nicholas Hobbs, "Mental Health's Third Revolution," *American Journal of Orthopsychiatry*, Vol. 34, No. 5, pp. 822–833.

An outstanding example of what the psychiatrically oriented physician can do is provided by the physician in Vernal, Utah, who "interested three other local general practitioners in the idea of hospitalizing psychiatric patients in the Vernal hospital. He persuaded the hospital to allow him four psychiatric beds —not a unit, just four psychiatric beds. During the two years this project has been in operation, there have always been at least two or three psychiatric patients in the hospital under the care of the general practitioners. Eighty percent of these patients have been returned to their community without needing other treatment."[36] In this case, no professional psychiatric personnel were necessary to prevent a substantial number of hospitalizations.

Clergymen, teachers, and lawyers also come into contact with large segments of the population, and education in psychiatric techniques can be of value to them as well as to the physician. And to involve these people, through educational programs, in the aiding of the mentally disturbed is community mental health care in the truest sense of the phrase.

Effective utilization of personnel in the mental health center calls for a reorganization of staffing patterns and the retraining of ancillary personnel who have worked in other types of institutions. The editor of *Comprehensive Psychiatry* writes, apropos of training,

> "That a shift from specialized to comprehensive treatment involves current education and training is strongly emphasized . . . The professional manpower shortage is alarmingly real, but it is also self-made. It will do us no good to cite astronomical figures for help needed without questioning the present practice of utilization. Little if any research has been done to determine the effectiveness and efficiency of prevailing staffing patterns and staff functions. And yet it should be obvious on all accounts that the new models of mental health services cannot be made to work if we permit the triumvirate psychiatrist-psychologist-social worker to carry on business as usual . . . If we are to operate the comprehensive treatment center successfully, we must begin with an 'agonizing reappraisal' of staff functions, skills, and areas of competence."[37]

One way to improve the utilization of existing professional manpower is the elimination of such administrative tasks as referrals, evaluations, and examinations, which are often handled by the psychiatrist. The concept of institutional overlap may provide a key to utilization of both manpower and facilities in this area. The structural basis of overlapping, as described by Seymour Perlin and Robert L. Kahn in *Comprehensive Psychiatry* for December 1963, is the sharing of key staff personnel and the cost of salaries and facilities by two institutions with overlapping clientele. (The overlap program of the division of psychiatry at Montefiore Hospital in the Bronx has already been described.) The aim of overlapping services is to focus on the needs of the patient to a degree impossible in a framework of parallel services or even through traditional efforts at cooperation. Overlap eliminates or simplifies to a great extent the necessity for the exchange of information between institutions, and increases services to the large numbers of persons who are simultaneously the patients of two institutions. The overlap of nonmedical institutions, as well as medical and psychiatric, might prove to be an important model in the formulation of the community mental health center.

Aside from institutional overlap, coordination and continuity of services may save manpower through avoiding duplication of services and by making sure that the patient always sees the same psychiatrist and is therefore able to form the emotional bonds so important to effective therapy. Continuity of service is extremely important to the short-term therapy that is characteristic of the efficient use of manpower and facilities in the community mental health service.

With increasing emphasis on part-time care and the responsibility of the patient for himself, the role of the ancillary worker must change also; new patterns of relationships will develop between professional and ancillary personnel, and between staff and patient. Traditionally, the physician has been trained to accept all responsibility, so that the psychiatrist often has difficulty in collaborating with the psychologist and social worker, and especially with the ancillary personnel whose roles in mental health care are assuming increasing importance. Psychiatric nurses are already participating in coördinated psychiatric programs and leading group therapy sessions. The role of the ancillary worker is no longer merely custodial; it is becoming one of active participation in the therapeutic program.

Professional positions, such as that of social worker, are also being modified to fit the concept of the comprehensive center, a concept based on the therapeutic needs of the individual patient. Entirely new roles are suggesting themselves, such as that of the nonprofessional "expediter," who would direct the incoming patient to the proper service. And George Albee, in his paper, "Needed: A Conceptual Breakthrough," states that, "By using college graduates with some special training in reeducational techniques it will be possible for society to develop new institutional forms which require manpower rather easily recruited and trained." Project Re-Ed (reeducation of emotionally disturbed children), as described by Nicholas Hobbs in the *American Journal of Orthopsychiatry* for October 1964, makes use of young teachers with only nine months of special training in teaching emotionally disturbed children. These teachers are backed by psychiatrists, psychologists, social workers, pediatricians, and curriculum specialists. The idea behind programs of this nature is to multiply the effectiveness of the mental health specialist through the utilization of less highly trained personnel.

The use of volunteers may prove more practical in the community mental health center than in the state hospital because of the more easily accessible location and more relaxed atmosphere of the former. The volunteer may help in decreasing patient apathy and withdrawal, and in providing a role model in social interaction.

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[36] C. H. Hardin Branch, "Have Plan, Will Travel," *Planning Mental Health Programs*, p. 4.

[37] Fritz A. Freyhan, "Editor's Introduction," *Comprehensive Psychiatry*, Vol. 4, No. 6, p. 365, December 1963.

In attracting and retaining a qualified staff, the community mental health center has a great advantage over the state hospital, in that most professional and highly trained personnel prefer an urban location, and are reluctant to isolate themselves in the traditionally rural state institution. Urban location also makes it possible for the private practitioner to care for his patients in the center. It may even be true that the strength of the emphasis on the community center will cause a shift of professional personnel from the state hospital to the community.

Recruiting outstanding personnel may be difficult for even the most modern and well-equipped community centers because the salaries that centers are able to pay are substantially less, in all categories of personnel, than could be obtained elsewhere in the community. The psychiatrist may receive a salary of less than half the amount that he could make in private practice. The opportunity to engage in research could also be an important point in securing those top-quality professional personnel who are concerned with the prevention of mental illness. As George Albee points out, no battle against a major illness has ever been won by treating those already stricken, but through research into the causes of the disease.

Like increasing awareness of the necessity for research, techniques of therapy are being modified to fit the concept of community care. One-to-one psychiatry has little place in the community center because it does not efficiently utilize available professional manpower. Social interaction, group and work therapy, role playing, milieu therapy and treatment of the patient's family, and consultation and education services for the community are better suited to the goals of the community mental health center than is treatment aimed at long-range personality reorganization.

This new orientation requires a shift of emphasis, a break with tradition, that may be difficult to achieve. Increasing recognition of its potentials offers the promise, however, of resolving many of the problems which confront the mental health profession in alleviating manpower shortages and in propelling the care of the mentally ill into a new era of achievement.

Chapter II

ORIGINAL PAPERS

NEEDED: A CONCEPTUAL BREAKTHROUGH

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For several years we have heard that the best hope for solving the desperate professional manpower shortages in mental health lies in a research breakthrough in establishing the cause and cure of one or more of the most prevalent mental "diseases." This statement is usually elaborated to mean the discovery of some imbalance which will lead to a pill, drug, operation, or injection which will cure schizophrenia, or will remove symptoms of neurotic tension and anxiety, or will in some manner correct the structural, chemical, or other biological imbalance which is causing the mental disease, with the consequence that fewer professional people will be needed, bringing manpower demands more in line with supply.

It is my thesis that our manpower problems in the field of mental health will not be solved, and cannot be solved, until there has been a *conceptual* breakthrough with regard to the causes and remedies of most forms of mental disorder. The whole professional field of concern with mental disorder, and of mental health manpower planning, is dominated by the concept of *mental disease* when in reality most mental disorders primarily are learned patterns of deviant behavior which are inappropriately conceptualized in the *disease model.*

Perhaps we have already made the research breakthroughs, but we are too blinded by our language, our values, and our professional cultures to recognize their implications. I suggest that many psychopathologists would agree with the argument that most neurotic and functionally psychotic mental conditions are more social than biological in causation.

Research has already demonstrated that psychopathology increases as the integrity of the family is damaged or destroyed, and that conversely the amount of psychpathology is low in groups where the stability and strength of the family are high. Children from well-integrated families have very low lifelong rates of mental disorder, and children from broken or emotionally disrupted families have high subsequent rates. Recent research by Marie Skodak establishes the fact that most babies born out of wedlock to the most emotionally unfit and intellectually limited women, when these babies are adopted shortly after birth by strong families, show great emotional stability and excellent intellectual development when followed up 25 years later, beyond what would be predicted by regression equations using the mothers' intelligence or adjustment as points of departure.

While all mental disorders conceivably can be included under the dictionary definition of *disease,* so also could many other prevalent human problems such as, for example, prejudice. The difficulty is that the consequences for action which derive from a decision to call *either* schizophrenia *or* prejudice a disease are inappropriate solutions to reducing the incidence of either condition. The identification of these conditions as diseases leads, logically, to local, state, and federal planning for medical care, nursing care, hospitals, beds, and ultimately for investment of funds in biological research aimed at discovering their organic causation. It must be clear that not *all* emotional disorders are primarily social in origin. There is a large group of disorders, and a very large number of people afflicted with them, who are appropriately subjects for medical treatment because the disorders derive from toxins, cerebral arteriosclerosis, brain damage, etc.

So long as the *disease model* prevails for neurotic and functional psychotic mental disorders, we will limp along with too few medical and paramedical professional people attempting to *treat sick* human beings in hospitals and clinics with minimal effectiveness or appropriateness. When the sickness model ultimately is laid to rest society can set about training new kinds of professionals, closer perhaps to school teachers than to psychiatrists, to work with these disordered people in new kinds of institutions closer perhaps to schools than hospitals.

There are a number of reasons for the persistence of the *disease model* in the field of functional behavior disorders.

First, it served as an excellent humanistic substitute to the older explanations of uncontrolled behavior which ascribed causation to sinfulness, taint, or demonic infestation. These explanations had prevailed until the humanitarian movements of the late 18th and early 19th centuries occurred. The rise of science, the logical and programmatic successes of taxonomy and of disease classification, and the widespread replacement of superstitious religion with scientific rationalism, combined to make the *disease model,* and efforts at nosology, seem proper and progressive when applied to the insane.

Second, the *disease model* received great acceptance from the phenomenal success of medicine and its basic sciences in uncovering and revealing the unseen world of microbiology, and in the elaboration and successful application of the germ theory of disease.

In the field of biological research too, one disease after another yielded to the persistence of scientific investigation. The elimination of typhoid fever, of smallpox, and of other plagues that had beset mankind from earliest recorded history, and the further triumphs of physiological medicine in controlling diseases such as diabetes, combined to raise hopes that the great mental scourges would be the next to yield. Indeed, the persistent investigation of *general paralysis of the insane* over a period of 200 years finally led to the discovery of the role of the spirochete in the development of paralytic-cum-mental symptoms, and then soon after to malaria treatment, and eventually to a sharp reduction in the incidence of general paresis. A similar success in uncovering the role of vitamin deficiency in the production of pellegral psychosis further added to the promise of the disease model.

It seemed just a matter of time until biological, biochemical, or neurological discoveries would lead to the research breakthrough which would produce a comparable reduction in the incidence of schizophrenia or manic-depressive psychosis. The apparently growing evidence of a genetic factor in these conditions was almost the clinching argument for the structural-physiological disease model of behavior disorder.

Third, the *disease model* has persisted because it supports the chronic social inclination to write off current victims of severe emotional disorder as Lost Ones who should be given at least minimally adequate shelter and food, but for whom there is little hope because of the irreversible nature of most of the disease processes with which they are afflicted, described in detail first by Kraepelin. The victims themselves cooperated by regressing and withdrawing into a world of bizarre fantasy and behavior in the absence of effective intervention. The public fear of, and fascination for, the insane asylum formed the *zeitgeist* which nurtured the cultural vision of hopelessness and irreversibility.

A related powerful source of support for the *disease model* involves the appeal of the strategy demanded for seeking a reduction in the incidence of "mental disease." If mental disorder is indeed a disease, then funds can be spent in good conscience for research seeking the neurological, biological, and chemical causes, and society can convince itself that it is doing its best to eliminate mental disease. If, on the other hand, mental disorder is eventually acknowledged to be largely social and cultural in origin, the consequences for action will be very serious if not downright dangerous to the status quo. It may be necessary to direct our efforts at prevention to the modification of social institutions which now enjoy strong support from those favoring the status quo. To choose one example, if it is acknowledged that discrimination, with associated unemployment, poverty, broken families and poor housing, is a major cause of emotional disorder, then social action to insure employment, decent housing, and equal social participation is indicated as a remedy for mental disorder, rather than more biological research. Understandably, this solution may be more threatening than a sickness model.

Another source of support for the *disease model* is the very understandable reluctance of families and relatives of mentally disordered people to acknowledge any personal responsibility for the emotional disorder. If a functional mental disorder can be regarded as "an illness just like any other," then the families are absolved of guilt—if the causes of the disorder are independent of human interaction then fate can be judged responsible.

Perhaps, however, the most compelling reason for the persistence of the *disease model* has been the absence of a satisfactory alternative model. There is a well-known rule in politics that "you can't beat somebody with nobody," and the same thing is true in science. A scientific model will persist, despite its incorrectness or absurdity, until a more valid and heuristic alternative appears.

In recent years there has begun to emerge out of psychoanalysis, social case work, and psychological research the elements of a theoretical model which might be termed the *social-learning theory* of mental disorder. In very general terms this approach suggests that most emotional disorders are complex learned behavioral patterns, the origins of which are to be found in unfortunate emotional conditioning during the first few years of life in social interaction with significant adults, usually the parents. It is held by a growing number of behavioral scientists that most emotional disorders are acquired defects in *social* interaction and *social* participation. Evidence continues to accumulate from the laboratory, from psychoanalysis, and from psychotherapy in general that sociocultural conditions which influence the stability and strength of the social world of the infant and child have profound effects on the rate and kind of subsequent emotional disorder. As one by one the various immigrant groups in the United States have escaped the inner city and have moved into middle-class respectability, their changing rates and patterns of emotional disorders illustrate the importance of sociocultural forces.

Results of recent imaginative research with monkeys by Harry Harlow provide a needed analogy for adult human behavioral disorders which on the surface seem rooted in defective organismic physiology, but which have been shown in his controlled laboratory studies to be producible by catastrophic infantile experience. Harlow's motherless and isolated male monkeys become severely disturbed adults who never achieve normal heterosexuality; his motherless female monkeys who became mothers through experimental intervention rather than inclination exhibit neither love for nor interest in their babies. These monster mothers, as Harlow has dubbed them, so reject, insult, and injure their babies as to pass on their emotional disorders to the next generation, unless controlled remedial social learning experiences for the infants are interposed.

Another developing line of evidence suggests that alternative (and social) explanations may account for the very convincing figures on the role of hereditary factors which have been reported for years. Not only has the genetic work been examined and found to contain flaws which make it less than convincing, but recent germinal discussion of the data by Don Jackson, and even more recent research in Finland by Tienuri, suggest that the genetic evidence is not sufficient to convict in the Court of Occam.

Viewed realistically, it would be natural to assume that psychoanalysis would be leading the argument favoring the social-familial causal explanation of psychopathology. Analysis represents the major source of our insights regarding the infantile and early childhood origins of emotional distress. An examination of psychoanalysis, both as a theory and as a social institution, should teach us a great deal about (1) the social origins of psychopathology, and equally important, (2) the social forces which perpetuate the *disease model.*

An examination of the history of psychoanalysis shows that (1) a dramatic change in the kinds of cases seeking professional help emphasizes the cultural rather than biological origins of emotional disorder, and (2) the nonfunctional institutionalized patterns of analytic practice continue to emphasize the illness model and underscore again the fundamental validity of Freud's insistence that psychotherapists should not be trained in medicine.

Psychoanalytic theory was in large part derived from clinical experience with persons living in Victorian Vienna. Turn-of-the-century Vienna was an innerdirected culture. David Riesman has pointed out the characteristics of inner direction in people living in those expanding industrial civilizations which require the development of strong individual consciences. These conditions were present in Vienna and ideally suited to the production of hysterical symptoms based on strict sexual repression.

In an inner directed, urbanizing society the prevailing requirement for individually mobile, upwardly striving people is an individual conscience for each individual. Strict repression of sexuality in the middle class is necessary until education is completed, or the achievement of a sufficient measure of financial success permits the financial burden of marriage and family. Children are taught to repress and control strong but unacceptable urges. Such delay of gratification must be individually controlled, whereas in earlier, tradition-directed societies the stable small community itself provided external control for a population which lived and died within the hills of home.

This inner directed pattern was particularly characteristic of the middle-class *nouveau riche,* from which hysterical group were drawn the conflicted neurotics who represented psychoanalysis's first subjects. As a neurologist Freud was called upon to treat people with mystifying paralyses and anesthesias, which fit no possible organic causation. Traveling to Charcot's clinic in Paris, Freud found the same kind of "neurological patients." He returned to Vienna and set about investigating this phenomenon of hysteria.

Psychoanalysis took root and flourished in the United States, another inner directed society with a puritanical as well as Victorian heritage. The subjects for psychoanalysis in America were likewise drawn from the middle-class groups most repressed and most plagued with the problems of the individual conscience requiring delayed gratification of impulses. Horatio Alger was almost certainly doomed to hysteria or psychosomatic itches, and Captain Ahab obviously stayed in his cabin because of fits of depression.

Times and societies and social forces change. As our Western civilization, and particularly the United States, has moved into an *other-directed* pattern—as our problems of production have been solved and as the bounteous outpouring of consumer goods has enabled us to participate early and often in the great American potlatch ceremony, the necessity for long delay of gratification has been lost. The individual conscience is weakening in succeeding generations, and is nonfunctional for many.

As a consequence of this social change there is evidence that the so-called classical neuroses are disappearing. While hysteria and the obsessive-compulsive neuroses are still seen in the Bible Belt, and in certain pockets of lower-middle-class groups still on the make, they are rarely seen in the offices of our private practitioners of psychotherapy, nor in our urban clinics and hospitals. There is a similar disappearance of manic-depressive psychosis for perhaps similar reasons.

Nowadays we find people coming to psychotherapy with perplexities about the significance and meaning of existing. Horatio Alger and Captain Ahab have been replaced by Françoise Sagan and small groups waiting for Godot!

The psychotherapy demanded by inner directed people in an other directed culture is more existential than psychoanalytic, but it will take some time to replace orthodox psychoanalytic theory with existential theory. The analysts *could* be leading this change. Unfortunately, social change moves faster than the curriculum. The individual conscience in a society dedicated to consumption is about as useful as the individual appendix. As it is lost the pattern of neurosis will change again. By the time all of out psychotherapists become existentialists and our students master the new concepts and techniques they will have become outdated once again. For following the wave of existential neurotics now beginning to break over our heads it is possible to see dimly and far off on the horizon a new wave of psychopathic personalities. Eventually we will all have to be training probation officers! Psychotherapists are impressed with the increase in the number of persons who are being referred with character disorders rather than recognized neuroses and psychoses.

Historical accidents have funny ways of pushing institutional developments into grooves from which it is difficult to break free. Sigmund Freud was trained in medicine and spent many years in careful, painstaking, and detailed research in the neurohistological laboratory tracing nerve fibers and making major contributions to our knowledge of the nervous system. His specialization as a neurologist quite naturally put him into the neurological clinics of the university where he came in contact with the perplexing problems of people with paralyses and anesthesias for which there was no discernible neurological lesions. Freud's scientific training, and his patience developed in unraveling fiber tracts, together with his natural genius, led him into a lifetime of persistent investigation of the mystery of how physical symptoms could be caused by conflicts which had no discoverable locus in disturbed physiology or neurology.

Throughout his many years of productive study of psychopathology, Freud repeated often his firm conviction that good psychoanalytic training did not require a medical foundation, and, indeed, was hampered by it. Nor did he believe that psychoanalysts should be trained first in some other academic discipline. It was his belief that to be a psychoanalyst one should begin to do psychoanalytic investigation and, in the company of one's fellows, develop one's skills and insights. This is the pattern that Freud and the group around him followed. They were outside the hallowed halls of academia, and for many years were treated as untouchables by both medicine and philosophy.

While it may be audacious to suggest that people who want to be psychoanalysts should go ahead and follow the Vienna example, at least the suggestion is legal under the Constitution. For the judgment of constitutional lawyers is that laws attempting to restrict the practice of psychotherapy to any single professional group are likely to be found unconstitutional.

Psychoanalysis has had an important influence on the American culture but not nearly what it might have had had it been free to grow outside the Procrustean bed fashioned by the prerequisite of medical training. There are only one thousand psychoanalysts in the United States because until very recent years to be a psychoanalyst it was necessary first to be a psychiatrist, and to be a psychiatrist it was necessary first to be a graduate of a medical school. The long-time limitation on the output of physicians has had a side effect in limiting the output of psychoanalysts. Because of the unilateral American requirement of medical training, strong arguments have been advanced by the analysts themselves to defend the position that medical training is essential. While the psychoanalysts are the recipients of scornful attacks by the organicists in psychiatry they have had no choice but to defend publicly the proposition that their medical training is essential. The argument that is always resurrected is that medical training helps the analysts spot intercurrent organic pathology, usually a possible brain tumor, which would otherwise be missed.

The day is coming when the psychoanalysts must join with others to train nonmedical neophytes, and must join forces with the cultural anthropologists, the educators, and the clinical psychologists in creating a separate profession of psychotherapy with research as its prime function. But real progress in this direction will not be made until significant numbers of psychoanalysts, perhaps in continuing self-analysis, decide to abandon the *illness model* in favor of a *social-learning model.*

Recently Paul Goodman has made the serious suggestion that professors leave our colleges and universities and set up shop as small groups of independent scholars, much in the pattern of the fledgling medieval European university, attracting around them groups of students who would provide direct payment to those who were wise and good teachers. Goodman's suggestion is a reaction to his impression that the Organization Man has taken over our American campuses which are therefore now completely dominated by administration, and are becoming factories where leisurely discourse and a passion for knowledge are discouraged in favor of faculty grantsmanship and consulting activities.

While it seems unlikely that the Bologna academic pattern will be revived it is possible that the Vienna analytic pattern may be. Here and there around the country we see unorthodox and unbaptized people setting up psychoanalytic training centers, attracting students, and engaging in the same kind of fierce doctrinal disputes that were such a yeasty part of the early history of psychoanalysis. While orthodox analysts limit their practice to entertainers and advertising executives, and spend much of their energy training self-selected atheoretical neophytes, the new unwashed groups are plunging ahead with the intensive study of cases. As their numbers increase and multiply it will become more and more obvious that competence is possible outside the direct succession.

Meanwhile there will still be plenty of mental illness for the organically minded psychiatrists to work with. All of the emotional problems associated with damaged central nervous system functioning, the problems of the organic psychoses in general, of cerebral arteriosclerosis and senility, of seizure states, and of toxic and endocrinologically induced psychoses will be left. When psychiatry returns to medical practice and gives up its claim to the behavioral pathologies induced by social conditions it will be possible to begin to deal with the manpower gap.

Once it is recognized and accepted that most neuroses and functional psychoses are learned patterns of deviant behavior the institutional arrangement which society evolves to deal with these problems will be *educational* in nature. It is already widely recognized that properly utilized behavioral modification techniques prevent the serious desocialization which accompanies hospitalization on the back wards. By using college graduates with some special training in reeducational techniques it will be possible for society to develop new institutional forms which require manpower rather easily recruited and trained. While it is difficult to anticipate the forms which such institutions may take, it is quite possible that they will be combinations of present day-care centers and night hospitals recast as small tax-supported state adult schools with a heavy emphasis on occupational therapy, reeducation, and rehabilitation.

Admittedly the social therapy which may be indicated need not be psychotherapy, and the professionals of the future may be trained in techniques of social interaction and social conditioning rather than in one-to-one relationships. It seems likely, however, that we will continue to need individual psychotherapists for a long time as a major source of insight into patterns of mental disorder which emerge as a consequence of changing social structures.

Under the rubric of the *disease model* the institutions which society has evolved to care for emotionally disturbed and mentally disordered children and adults are inadequate and inappropriate, and this situation is bound to get worse. Because it will take several generations, or a century perhaps, to replace the *illness model* with the *social-learning model* as an explanation of mental disorder we must face the next several decades with a realistic understanding that the mental health manpower picture is going to worsen because we cannot train enough professionals to meet the manpower needs the disease model demands.

By the year 2000, just 35 years from now, the population of the United States, estimated conservatively, will be 350 million persons. Many of our states, including California, are growing much more rapidly than the underdeveloped countries whose population boom haunts the nightmares of social planners and liberal intellectuals. Not only is our population increasing much more rapidly than our professional and institutional mental health resources but also there are relatively few signs that any serious financial action is contemplated which could narrow the gap. Indeed, the gap will widen steadily.

Medicine and psychiatry are good examples to illustrate this point. At the present time some 7,200 new U.S. medical school graduates enter internships each year. But the population of the United States is growing more than three million persons each year. In order to provide enough physicians to take care of this population increase alone at the same doctor-to-patient ratio as currently prevails, we would need almost exactly 4,000 new physicians a year. Thus, it seems as though we are gaining something like 3,000 new doctors a year. This erroneous assumption has been made by a number of distinguished people. It neglects to take into account the frequently unrecognized fact that doctors are not immortal. They die, retire, or otherwise leave the field in the same way as other professionals. We must add to the number needed to take care of the population increase enough to replace those leaving practice.

It is very difficult to get an accurate figure of the percentage of physicians who leave practice each year. The National Education Association has worked out with great care an estimate of the rate at which professors are lost and has arrived at 6 percent as the best estimate. Perhaps it would be safe to use a much more conservative 3 percent for physicians. (This suggests that the *average* length of practice for doctors is 33 years, which does not seem unreasonable.) At this rate of loss our nation currently would require some 7,000 new physicians a year as replacements. Adding four thousand and seven thousand we arrive at a need for 11,000 to stay even. Now we see that instead of gaining doctors, we are losing them and at a frighteningly rapid rate.

What is going to be done about this growing shortage of physicians in the face of a rising population curve? Not much. The Association of American Medical Colleges estimates that 14 years elapse between the decision to start a new medical school and the commencement day for its first class. It is a very expensive undertaking to establish a new medical school, but even with the money in hand time has a way of slipping by while architects are drawing plans, school buildings and laboratories are being constructed, university hospitals are being organized or built and staffed, faculty members are recruited (and medical school faculties are plagued presently with unfilled positions), and while applicants are being recruited, students selected, and enrolled for a four year sequence.

What about psychiatry? Psychiatry is a speciality within medicine. Most medical specialties report serious shortages and few of them are able to fill their available residencies. Psychiatry must compete with other medical specialties where shortages and attractive inducements attempt to lure the prospective residents. For a long time psychiatry has attracted 8 or 9 percent of new physicians into psychiatric residencies. This figure has apparently reached 10 percent in the last year or two, but it is difficult to see how it can go much higher. Yet if we are to provide enough psychiatrists to take up the increased demand of a rapidly growing population, and to replace those psychiatrists leaving the field each year, we must somehow increase our output and this seems impossible in the absence of a huge expansion of medical education. In special areas such as child psychiatry and public health psychiatry the prospective shortage is even more serious.

The recommendations of the Joint Commission on Mental Illness and Health, and of the various state planning groups, ask that we do much more than just strive to hold our own. The joint commission suggested that realistically we need a fully staffed, full-time mental health clinic for each 50 thousand of our population. But to bring each state up to this desirable ratio would require literally thousands of new psychiatrists and other professional people who simply do not exist. The joint commission went on to recommend that every community general hospital of a hundred or more beds should have psychiatric beds or a psychiatric unit. But such units require the services, at least part-time, of psychiatrists, and so at least 2,000 more psychiatrists would be required to take care of the additional service load if this recommendation were to be realized. It seems almost senseless to go on citing other JCMIH recommendations and other plans which create demands for nonexistent people. Comparable shortages exist in every other mental health profession. Any manpower planning effort must confront these realities. If we persist in using an illness model of mental disorder we are never going to produce enough professional people to deal with the nation's growing need. This would not in itself, of course, be sufficient reason for abandoning the illness model if it could be shown to be valid. What I am suggesting is that we are trapped in a blind and hopeless alley conceptually and that a conceptual breakthrough can lead to manpower solutions and institutional solutions which can now only dimly be perceived.

The Use of People in Mental Health Activities

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The traditional approach to mental disorders has been to emphasize the most severe—the "hopeless" hospitalized victim, to limit our efforts in controlling the chronic stages, throwing the burden to an overloaded but valiant state hospital system—in effect trying to dam the Mississippi River at New Orleans,[1] and to depend on four professional groups, all in the greatest shortage of supply, in order to stem the tide. Breaks with this overdetermined isolationist tradition have been appearing with increasing acceleration, and evidence to justify hopes for the future lies in many scattered reports.

This paper is an effort, in a limited way, to present some of the factors in increasing the positive and supporting elements in the mental health field.

Orientation

Let us glance briefly at what is going on in "the world around us."

Benjamin Franklin, the physical scientist, called attention to a major social problem in 1780 when he said, "The rapid progress true science now makes occasions my regretting, sometimes, I was born too soon. It is impossible to imagine the height to which may be carried, in a thousand years, the power of man over matter. . . . Oh, that moral science were in as fair a way of improvement, that men would cease to be wolves to one another and that human beings would at length learn what they now improperly call humanity."[2] (Franklin, in 1751, had been the major force in starting the Pennsylvania Hospital, the first hospital for mental patients and "other distressed persons."

Not 1,000, but less than 200, years later, the editor of the *Explorers Club Journal,*[3] devoted as it is primarily to the science of geography, wrote editorially:

"Thomas Carlyle once wrote, somewhat wistfully it seems, 'I don't pretend to understand the universe —it's a great deal bigger than I am.' In thinking over Carlyle's simple statement, one is induced to wonder at two of the most startling facts of our existence.

"The first of these is the amazing scientific advances of the few recent decades. Unlike Carlyle, modern man has not only come far toward an understanding of the universe—he coolly and boldly proposes to master it, and there is no obvious limit to his achievement. At least this is true of the physical side of his universe. . . . Today physical science has burst all bounds. Knowledge feeds on itself, and creative physical scientists have become a leading element in the population explosion. Ninety percent of all scientists who ever lived on earth are alive today, and surely 90 percent of all existing physical science knowledge has been gained in a lifetime not yet finished. Today man has built machines to do much of his physical work at very high speeds. He has conquered many diseases. He has constructed a coherent theory governing the actions of scores of elementary particles he has never seen—indeed he has put them to work to liberate hitherto undreamed-of streams of power. He makes computers that are seriously proposed to be competitive with his own great intellect. He talks of controlling weather and climates, and he is deep in plans for the exploration of the moon.

"The second startling—and frightening—fact is the rate at which man's technology creates fearsome new problems which he cannot solve. Medicine and public health are doubling human populations every few years, and soon we won't know where the food is coming from. The need for more room on earth increases tensions between peoples, and we do not know how to relieve them short of war. Nuclear science has made the bomb—an instrument of possible total death—and we do not know how to keep it out of the hands of irresponsibles. We live in a world so lacking in the understanding of social and human problems that gentle solutions are not remotely in sight. So we spend much of our energies, and use a large part of our miraculous technological skills, making bombs, and navies, and air forces that could one day end it all for us.

"Where are the Platos and the Socrates and Solomons of today—thinkers as capable of solving our social problems as the physicists are of describing cosmic rays? Where are they indeed! Maybe the universe is still a lot bigger than we are, after all."

The extent of the mental illness is generally accepted and most opportunely declared from the White House itself in President Kennedy's memorable message of February 5, 1963, where in one notable paragraph he stated, "Mental illness and retardation are among our most critical health problems. They occur more frequently, affect more people, require more prolonged treatment, cause more suffering by the families of the afflicted, waste more of our human resources . . . than any other single condition."

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[1] Blain, Daniel, M.D., and Robinson, R. L., M.A. Personnel Shortages in Psychiatric Services, *N.Y. State Jr. of Med.* Vol. 57, No. 2, January 15, 1957.

[2] Benjamin Franklin—Letter 1780.

[3] E.R. Editorial—*The Explorers Club Journal,* September 1964.

In September 1964, the Council of the American Psychiatric Association, concerned with serious health and social problems ongoing in the nation, and emerging from day to day, affirmed that the responsibility of this association was the adequate care and treatment of all mentally ill persons. The group also, in a broader context, brought out some of the emerging social problems in the world around us, problems that the association should consider in some appropriate way and at a suitable time. "There is the population explosion with its impact on family life and the increases in children and adolescents to 40 percent of the total population, and the resulting overcrowding, depletion of resources and food shortages. There is the problem of urbanization and its effect on health and human adjustment, the threat of megalopolis. The other side of the coin is that rural areas are being further depleted of their manpower. Then there is the exicting promise and threat of automation leading to the "overproduction" of leisure time, and calling for more money to spend, more control and restraint in behavior and increasing use of skilled labor. What of the marginal man who cannot be trained? And the slow learner, the retarded whose IQ lies between 50 and 100, who has already difficulty in competing in the labor market. And human waste—the school dropouts including elementary, secondary and higher educational institutions, postgraduate and professional training and even residency training in psychiatry and the subspecialties; the rejectees from the armed services. Where will they fit in? And the explosion of violence and hate, and the increasing seriousness of crime and delinquency."[4]

Berelson and Steiner[5] point to a major human weakness: "Behavioral man adjusts his social perception to fit not only the objective reality but also what suits his wishes and his needs; he tends to remember what fits his needs and expectations, or what he thinks others will want to hear . . . his need for psychological protection is so great that he has become expert in the 'defense mechanisms'; in the mass media he tends to hear and see not simply what is there but what he prefers to be told, and he will misinterpret rather than face up to an opposing set of facts or point of view; he avoids the conflicts of issues and ideals whenever he can by changing the people around him rather than his mind, and when he cannot, private fantasies can lighten the load and carry him through . . .

"For the truth is, apparently, that no matter how successful man becomes in dealing with his problems, he still finds it hard to live in the real world, undiluted; to see what he really is, to hear what others really think of him, to face the conflicts and threats really present, or, for that matter, bare human feelings. Animals adjust to their environment more or less on its terms; man maneuvers his world to suit himself, within far broader limits."

To me, it is hard to see how the patterns of society, in peace and war, getting and spending, health and adjustments, can change without fundamental changes in the nature of man. As yet there appears little hint as to even the directions we should go. In this vacuum of leadership, psychiatry and the behavioral sciences may play an important role.

Mental Health

Scope—Framework—Stress—Trends—Tools

It is generally accepted that the job to be done in Mental Health includes (1) people with mental disorders * and the retarded: early case finding—diagnosis and referral, treatment, rehabilitation, and resocialization; (2) efforts to prevent the occurrence of each of these disorders when knowledge exists and techniques are available; and (3) positive mental health: the growth and development of mentally healthy citizens.

Zonal Classification of People:[6] The author, stimulated by hearing of the successful intervention of a family agency to assist persons in time of severe emotional stress by relieving the external stress before mental breakdown, was led to contemplate the questions: "Where do our patients come from?" and "What obstacles have they met?" This led to a system of classification of people in terms of their health or eventual need for mental health services. This concept was presented before the New York State Mental Health Forum in 1956. It has since been used in many parts of the country as a frame of reference towards analyzing mental health problems as well as personnel usage. The persons filling in the needs in the four zones are obviously those who would, in part, be considered as part of the overall mental health personnel resources. This plan was adopted as a framework for the California Long Term Mental Health Plan in 1961. It is mentioned here, again, for its possible continued usefulness. The zones are: I, Prenatal and childbirth; II, The normal social milieu; III, Zone of special stress before mental breakdown; IV, Zone of diagnosed mental illness.

The importance of stress, and its relief in cause and cure of mental illness, is well put by Rudin and his group in outlining *Principles of Mental Health Programming.*[7] "Stress: Psychiatric disorder (and other) may be thought of as reflecting an individual's inability to cope with stress. Conversely, mental health is manifested by the ability of the individual to cope with life's stresses, external and internal. The symptoms of mental and emotional disorder are expressions of attempts to deal with stress. While mental disturbance and deficiency are not related solely to stress, it is a useful concept for mental health program planning to think in terms of stress and disequilibrium in the face of stress.''

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[4] Blain, Daniel, M.D. "The World Around Us," *Journal of Australia Medical Journal* (in press).

[5] Berelson, Bernard, and Steiner, C. A. *Human Behavior: An Inventory of Scientific Findings.* Harcourt, Brace and World, Inc., New York, 1964.

* Mental disorders are classified in the psycho-biologic unit of the official nomenclature of the American Medical Association and the American Psychiatric Association.

[6] Blain, Daniel, M.D., and Robinson, R. L., M.A. New Emphasis in Mental Health Planning, *Am. Jr. of Psychiatry,* Vol. 110, No. 9, March 1954.

[7] Rudin, Ed. R., M.D., and Committee. *Principles of Mental Health Planning, California Long Term Plan,* Dept. of Mental Health, Sacramento, 1961.

James[8] has presented a formulation of disease and medical response which is quite parallel. This includes (1) the stage of disease foundation and predisease factors; (2) the stage of presymptomatic disease; (3) the stage of onset of symptomatic disease; (4) the stage of rehabilitation and the management of incurable conditions.

Tools to carry out these functions can be listed as (1) scientific knowledge developed by research and experience; (2) personnel to apply this knowledge (chief emphasis of this paper); (3) buildings and equipment; (4) financing; (5) auxiliary services, chiefly nonresidential, to supplement treatment; (6) minimal legal framework; (7) community organization; (8) informed and supportive publics, in both government and the private sector.

Trends: Psychiatric treatment has progressed to the point where mental diseases can be handled in ways similar to other diseases.

''There is movement towards local treatment, local administration; towards more responsibility by the private sector: Private mental and general hospitals and agencies; towards less hospitalization and more treatment by individual doctors, groups of doctors, outpatient clinics, day hospital services, mental and general hospital clinics; towards utilization of more of total medical profession; towards more group practice and group therapy; towards more diversification of financing—from multiple sources—personal funds, insurance, industrial, labor contracts, retirement, and federal, state and county welfare benefits; towards use of a broader variety of people, many less skilled under expert supervision and leadership; towards use of a variety of nonhospital living quarters for people who will go out for their treatment in day centers; towards assumption of responsibility of general hospitals for psychiatric care for the area surrounding them; towards government responsibility (in part) for production of *tools,* leaving *delivery* of services to local agencies; towards greater efforts in prevention of the occurrence of mental breakdown, and towards healthy growth and development.''[9]

Implications for People, Personnel, Manpower

One can find little argument with the thesis that human beings are the primary element in dealing with mental health. Physical agents in cause and effect and the physical environment play a part in mental disorders which is difficult to measure, but in the present development of our knowledges, these play a much smaller part in the field of mental illness and mental health than in other fields of health. It takes people to discover causes, to create remedies and to apply remedies, it takes people with ideas, training, attitudes, receptivity, motivation, and to a considerable degree proximity, working as individuals or in groups; for since social environment, mass attitudes and influences are products of people, individually and in combination, it is not surprising that manpower is of such enormous importance.

The National Shortage of Professional Personnel

Albee,[10] among others, has made a notable contribution in analyzing in depth the manpower pools of the nation. Funkenstein[11] has put the case for psychiatry (and mental health) in a succinct paragraph: ''Considering the shortage of psychiatrists without reference to the increasing shortage of physicians relative to the rapidly expanding population, or considering the shortage of physicians without reference to the national needs for professional personnel in all fields, would be to fragment the problem and to offer unrealistic solutions. *It should always be borne in mind that the shortage of psychiatrists is but one aspect of the shortage of personnel in all professional fields, and that the first effort in increasing the number of psychiatrists is to increase the national pool of students desiring professional careers sufficiently so that the national needs for such personnel can be met in the face of the rapidly expanding population.''*

The National Manpower Council. General Dwight D. Eisenhower, as president of Columbia University, established the ''Conservation of Human Resources Project'' in 1950 to undertake basic research in human resources; he also established the National Manpower Council in the spring of 1951, under a grant from the Ford Foundation. Dr. Eli Ginsberg, who was the director, is one of the outstanding authorities in the field.

A statement by the National Manpower Council opens with these words[12]: "This nation's economic and social well-being and its continued progress depend, to a striking degree, upon a small group of men and women who work in scientific and professional fields.''

The summary of recommendations with parentheses added to apply to mental health, follows: "Only a purposeful and sustained effort can insure that the United States will have adequate resources of scientific and professional manpower to meet its (mental health) needs. Neither the reliance upon a single course of action nor the pursuit of separate and unrelated policies will enable the nation to attain this goal.

''Supported by an informed public opinion, a cooperative effort, involving government, industry, the educational institutions and professional (subprofessional and all individuals) and other groups can provide the nation with the scientific and professional manpower it requires for the achievement of five broad and related objectives. These are:

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[8] James, George, Commissioner of Health, Medical Advances in the Next Ten Years: The Implications for the Organization and Economics of Medicine, *Bulletin N.Y. Acad. Med.,* Vol. 14, No. 1, January 1965.

[9] Blain, Daniel, M.D. Introduction to Annual Report, Commission on Psychiatric Studies, Pennsylvania Hospital, 1964.

[10] Albee, George, Ph.D. *Manpower Trends in Mental Health,* Basic Books, N.Y. 1959.

[11] Funkenstein, Daniel, M.D. *The Problem of Increasing Number of Doctors and Psychiatrists* (in process of publication) 1964.

[12] Ginsberg, Eli, Ph.D. *A Policy for Scientific and Professional Manpower,* The National Manpower Council, Columbia University Press, 1953 p. 1.

"To develop more reliable knowledge about our human resources and needs; to strengthen the institutions which educate and train our scientists and professionals; to maintain a continuous large flow of students through our colleges and universities; to expand the opportunities for capable young persons to secure a higher education (and assist them to improve their human relations); to improve the utilization of the available supply of scientific and professional personnel."

Later that year, the *Scientific American* devoted an issue to a broad-gauge assessment of human resources in the United States by eight authorities (*Scientific American,* 1951).[13] To illustrate the scope and depth of the subject, the topics covered were population, labor force, intellectual resources, engineers, scientists, doctors, mobilization, and youth.

The nation's specialized manpower problem has been succinctly summarized as follows (Wolfle, 1954)[14]:

1. Future growth is largely dependent upon college graduates.
2. Shortages must be expected.
3. Occupational flexibility is an important method of adjusting the supply of educated workers to changing occupational demands.
4. There are enough potential good prospects (for specialized manpower) to permit substantial growth in all fields.
5. There is some wastage and underutilization of the supply of persons trained in most specialized fields.

Manpower concerns in science and technology and in the mental health fields took parallel courses of development in the federal government, resulting in programs for national information on scientific and technical personnel and on mental health manpower.

In 1958, the National Science Foundation published ***A Program for National Information on Scientific and Technical Personnel*** (NSF, 1958).[15] Available information was assessed and found to be lacking, and a program for obtaining needed data was recommended. The acquisition of the types of information described in this program undergirded the valid assessment of the problem of supply and demand of personnel. Information, as used in the report, meant not only the usual kinds of descriptive data collected by survey or interview techniques, but also the results of new research in special problem areas.

In 1959, the Public Health Service report on "Physicians for a Growing America" looked ahead to 1975 in seeking to answer the question of how the nation could be supplied with adequate numbers of well-qualified physicians (U. S. Public Health Service, 1959).[16] A strenuous nationwide program of action was advocated in order to maintain and enhance the functions of medicine and medical education.

Ginsberg has stated[17]: "Total professional, technical, and kindred workers in the United States have increased between 1870 and 1950 from 365,000 or 2.8 percent of the total labor force, to 4,988,000 or 8.2 percent of total labor force. The relative positions of these groups making up this segment of the labor force have changed. *Teaching* dropped from 34 to 26 percent; *health workers* dropped from 29 to 20 percent; *religious and social workers* dropped from 10 to 5 percent; *law personnel* dropped from 11 to 2 percent; *art, letters, and entertainment personnel* increased from 12 to 14 percent; *science and technology* increased from 4 to 20 percent; and *"others"* increased from 1 to 13 percent. The latter is chiefly due to marked increase in administrative personnel and the social sciences, who have surpassed the humanities in applications for bachelor degrees.

High School Attendance and Graduation: In 1950, 85 percent of white children of high school age were in high school, while 60 percent of Negro children of the same age were in high school. These proportions were considerably lower among Negro children in the South.

In 1890, only 7 percent of persons of high school age were enrolled in high school and only half of these eventually graduated. In 1950, three-fourths of the age group were enrolled, and the number of graduates was almost 60 percent of the number of 17-year-olds.

College Graduation: In 1890, 3 percent of college age were enrolled, 1 percent were graduated. In 1940, 15 percent of the age group were enrolled and the number of graduates was 8 percent of the number of 21 year olds. In 1950, there were 434,000 graduates. In 1952, when World War II veterans completed their courses, the number of graduates fell to 332,000. A more complete picture is given by Farnsworth[18]: In 1961–62 there were 10,246,000 youth aged 18–21, and 16,954,000 aged 18–24. In college that year there were 3,726,000 including graduate students. In 1964 there were 5,320,000 in college. There were 1,235,000 freshmen and 596,000 graduated. Levinson and Kahn in "College Health," April 1964, stated that about one-half of dropouts were for emotional reasons.

Women in Scientific and Professional Manpower[19]: In 1950, two million women were listed in the professional categories. In these same professional categories there were four million men. The capacities of these girls and women will need to be studied, but, assuming that there are probably equal numbers of girls and boys of more or less equal capacity in the high schools, it appears that there are two million more women available for recruitment for the same services. It is of interest to note that the largest groups of professional women are as follows: 43 percent of all women professional workers are teachers, constituting 75 percent of all the teachers. Twenty-four percent are nurses and student nurses, constituting 98 percent of all workers in that field; 5 percent of women professional workers are in religious, social and welfare, recreation and group workers, constituting 66 percent of all workers in that field. Women also constitute, among "professional categories," 55 percent of medical and dental technicians, 21 percent of other technicians, 12 percent of natural scientists, 4 percent of architects, 3 percent of dentists, 7 percent of draftsmen, 1 percent of engineers, 4 percent of lawyers and judges, 8 percent of pharmacists, and 6 percent of physicians and surgeons (about 12,000). About 6 percent of women in professional categories are physicians.

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[13] Human Resources of the United States, *Scientific American,* September 1951.

[14] Wolfle, D., Ph.D. *America's Resources of Specialized Talent.* N.Y. Harper and Brothers, 1954.

[15] A Program for National Information on Scientific and Technical Personnel, Nat. Science Fd., August 1958.

[16] Physicians for a Growing America, Public Health Service Pub. No. 709-1959.

[17] Ginsberg, Eli, *op. cit.*

[18] Farnsworth, Dana, M.D. Personal Communication, Harvard Univ. Student Health Service.

[19] Womanpower—A Statement by National Manpower Council, Columbia Univ. Press, 1957.

The position of Negroes in medicine is indicated in the New York *Times:* "Many white medical schools would have been willing to accept more Negroes had their college training been of higher caliber." Again pointing to the fact that the "separate but equal" doctrine had caused a tremendous loss of manpower in medicine as far as the Negro was concerned, the article added that "Our total national shortage of physicians was acute and that of Negro physicians critical; whereas the national ratio was 132 physicians for 100,000 population, among Negroes the ratio was 20 per hundred thousand." There was evidence that psychiatric training centers encourage Negroes to espouse psychiatry and that medical schools have accepted all who qualify, but that they were prevented from accepting more because of the inadequate preparation which most Negro college graduates had obtained. It must also be remembered that the number of Negroes in college is even lower than the total number of Negroes in the population. In other words, they are not 10 percent of college students.

Mental Health Manpower

In the total science and health field, psychiatry and mental health present the greatest national challenge: They have inherited the greatest load of uncured people, are subject to popular prejudice and ignorance, have the greatest professional shortages. They are distinguished by having a major involvement in emerging social problems like overpopulation, urbanization, automation, discarded and displaced persons, the deprived and suppressed, delinquency, explosions of violence, and all that goes with poverty. As public health improves, people live longer but adjustment problems increase. Psychiatry is growing in demand while some medical specialties are shrinking and changing their direction.

There are encouraging vistas. The attack on physical, biochemical and genetic factors as causative factors is making progress each year. Most important, from the writer's viewpoint, the greater involvement in the complicated matrix of society, a source of increasing discouragement, brings with it a greater number of social forces which can be used to advantage. These forces reside in people—individuals, groups, masses, social systems. How can we use people—trained, less trained, people with good will without training?

Maximum Mental Health Potential of All People.[20] In the discouraging manpower shortage, it must be recalled there is not any shortage of total manpower! There is a surplus! Distribution and utilization and training are at fault.

The hypothesis is: All people play a part, directly or indirectly, in a positive or negative way, in the mental health situation.

The question, therefore, is: How shall we increase the usefulness and decrease the obstructiveness of all people?

Rachel Carson's *The Sea Around Us* opened for me a vista of unexpected wonder and speculation. The individual algae in the oceans and fresh-water rivers and lakes are innumerable. This nutrient element, properly garnered, is said to be sufficient to solve the food problem of the great populations of the future.

Why not make use of the human algae, the minute influence of all people to increase the overall level of mental health? Some highly trained professionals would have the greatest potential, perhaps, but the sum total of the mass of people, whose contribution is even slightly increased, might produce assistance far outweighing currently available mental health manpower and go on to produce assistance to an unimaginable degree.

To ascertain the maximum mental health potential of various individuals, perhaps starting with professional and subprofessional groups, then civic leaders and eventually including all people, would appear to be a worthwhile objective. The various potentials having been estimated, perhaps on a comparative scale, the next step would be to move toward the raising of the level of individuals and groups. One thinks of members of the family, those related to growth and development, caretakers, contributors to the normal social milieu, creators and relievers of intolerable stress, leaders and privates in the army of humanity which contributes or detracts from physical, intellectual, social, emotional and spiritual aspects of life. One must remember the individual with his own job of living. Some persons in all groups are the target of present efforts, but systematic efforts, measurements, goals, and attention to the mass of individuals has yet to be done on a large scale.

A project to explore and organize efforts in these directions is now in the process of development in the Commission on Manpower of the APA. At an early point, other interested groups will be brought in and, hopefully, all efforts coordinated.

Related Professional and Scientific Groups

1. *The total medical profession,* including selection and training of students. There is much that can be

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[20] Blain, Daniel, M.D. Church and Mental Health, *Journal of Religion and Mental Health,* January 1965.

done in college selection, premedical programs, recruiting into medicine, and the basic and clinical departments of medical schools, influencing as they do the future contributions of doctors to science and to their patients. As clinicians, all physicians are persons whose attitudes and feelings are helpful or obstructive to their patients' needs. An appreciable number of all mental patients are seen by nonpsychiatric physicians. This is particularly true in rural areas but general practitioners in the cities find that, regardless of their interests, mental patients are in their total patient group. An extreme example of almost a whole state which is in the general care of nonpsychiatric physicians is the State of Alaska, where over half of the total population is scattered in small towns and villages set at considerable distance from a specialist and often from any kind of medical person. The doctors are currently assuming responsibility although they are anxious to have more specialists move in. It is likely that the two or more private practicing psychiatrists in the state will, in order to help cover the whole state, do a great deal more consultation and supervision than is customary, and the other physicians in that state will do far more psychiatry than they would in other areas. To assist in this total situation, an extensive training program, far more than is currently available to general practitioners in their workshops, must be made available.

Psychologists in all branches, particularly educational, experimental, physiological, industrial, social, statistical, and administrative, are contributing much directly and indirectly to the field of mental health, in addition to the clinical psychologist who is wholly dedicated and trained to the field.

Social Scientists and Behavioral Scientists. Hopefully these groups will be drawn more into all the phases of the mental health situation. They are already active in assessing programs in research and in studying social groups and influences on growth and development and remedial operations for those who are ill. Special efforts should be made to find uses and encourage members of the social science group to participate in this field. The social sciences may be said to include, from the membership of the Social Science Research Council in Washington, psychology, sociology, anthropology, political sciences, economics. The behavioral sciences are listed by Berelson and Steiner as "the disciplines of anthropology, psychology, physiological psychology, and sociology minus such specialized fields as archeology, technical linguistics, and most of physical anthropology, plus social geography, some psychiatry, and the behavioral aspects of economics, political science and law."[21]

The social work profession includes those interested in welfare, group work, genetics, community organization, and general and specialized welfare agencies. The medical group now includes psychiatric social work, which will be discussed later. In general, the total group is enormously useful, dealing as they do with the various causes of stress in areas of economics, delinquency, health, employment, family situations, and the like. Of particular interest are the possibilities in primary prevention of anxiety states which exist in the early relief of intolerable stresses by attacking the external stress with non-mental-health personnel before mental breakdown has occurred (Zone III—Blain). This, as mentioned elsewhere, could be of great significance as a "mass preventive measure" demanded by the World Health Organization, perhaps even more important than the treatment program itself.

The Nursing Profession. This is the largest of the health professions. All nurses deal with people, health, and related matters. They have as a group essentially the same direct and indirect contact with mental health as do physicians. The nursing profession puts great importance on psychiatric affiliation training for all nurses and is moving toward infiltrating the total curriculum with the psychological element in all healthy and sick people, personal and social adjustment. All the special interests of nurses such, as ob-gyn, surgery, children, the aged, office work with physicians, specialists of all kinds general staff duties, private duty nursing, health agencies and schools make them of great importance to the mental health field. Nurses work also as teachers, administrators, researchers, and writers. The potential for training a certain number of the vast army of inactive nurses still licensed is great for the mental health field.

Rehabilitation. This term can include the specialties of occupational therapy, physical therapy, education, vocational training, corrective therapy, and sometimes music, recreation activities, and the direction of volunteers. The rehabilitation function of medicine is coming into its own with greater and greater appreciation of and demands for such services. Professional persons in these various fields need and use special skills in the psychological aspects of health and disease in all of their work. A fairly large proportion are directly engaged with mental patients in vocational training programs and in mental institutions. The training of persons not employed in psychiatric situations in rehabilitation is most important.

Teachers. These include kindergarten, elementary, secondary, college, and graduate school instructors, as well as specialists in vocation, industry, and the various sciences, and professionals who take added training to engage in pedagogy. Twenty-five percent of all professional and scientific personnel are teachers. As custodians of most of the time of children and youth, they have the greatest potential influence in growth and development, and preparation for life. The creation of a suitable working climate in the school, the recognition of signs of unusual stress and of frank mental disease, and the development of motivation for optimum education and satisfactory social adjustment are major functions of all teachers, in addition, of course, to assisting the pupil in formal intellectual development. Specialists in mental health are those in special education for the retarded and those working in mental health education. Special training, job opportunities and increase of programs for the retarded are functions of this group of educators.

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[21] Berelson, Bernard and Steiner, *op. cit.*

Ministers of Religion. All ministers are most influential in families and individual living. They exercise considerable influence in proper growth and development; they have a congregation or members of their church or synagogue, the church property, and often a geographical area in which they take a special interest. Especially interested in the spiritual side of life they also have an important social mission. As individuals and as leaders of their groups, they have great influence on the individuals in their congregation as well as on the area in which they work. The broad program of the church and its office and levels of church government, including regional, state, and national, have important opportunities to contribute to mental health.[22] Ministers as part of their duties engage in counseling, a fair proportion of which is with emotionally disturbed people. They are leaders in the mental health movement.

Administrators of residential institutions, hospitals educational programs, organizations, shop foremen and higher industrialists all have a great opportunity to operate their programs wisely and to handle their personnel in ways which promote a good psychological atmosphere, the opportunity to provide the things human beings need to help in their adjustments and advancement. Such programs are constructive; they are also a preventive force for mental disorders to the extent that they succeed in preventing unnecessary stress and arrange for smooth operations and attention to individuals. Good administration requires recognition of psychological factors in human needs and relationships.

The Judiciary, Legal Professions, and Law Enforcement Personnel. An appreciable amount of the work, efforts and energies expended by this group are in relation to human adjustment and human difficulties. They deal with people as well as with abstract legal theory. Many of those with whom they deal are mentally ill or at least emotionally upset, and under serious emotional stress. Their potential for dealing with the human element in preventing mental breakdowns, in recognizing and dealing suitably with mental illness, is of the greatest importance. The selection, training, attitudes, and performance of judges, lawyers, the police, and correctional officers are more important than most other major groups in society. The proper legal and regulatory codes are also important and are largely in the hands of this group. The operation of these laws and codes demands suitably trained persons in this area. Psychiatric training in the school of law is obviously important and should be regarded as one of the producers of mental health manpower.

Full-Time Mental Health Professions

1. *Psychiatry.* Traditionally, psychiatry is that specialty of medicine to which has been assigned the primary interest in the mentally ill. The formation of the American Board of Psychiatry and Neurology occurred in 1934, the fifth out of 19 specialties in the field of medicine. The American Psychiatric Association was formed by a group of 13 superintendents of American institutions for the insane in 1844, the first national medical organization, preceding the AMA by three years. It has 14,500 members and has developed a strong organization with a large number of standing committees, all of which may be said to advance the training and development and competence of psychiatrists to work in their chosen field. It has exerted leadership in the medical profession, particularly because of its primary interest in the whole man, dealing as it does with his behavior and his total adjustment to himself and his fellow men. There is a recognized shortage of psychiatrists, which has been relieved only partially in its progress from one psychiatrist to eighteen and a half thousand persons to approximately one psychiatrist, at this time, to sixteen thousand persons. Psychiatry composes approximately 8 percent of the total medical profession and it has shown enormous growth since World War II. There is some unevenness in training, for many working full time in psychiatric institutions have little formal training and others go through the rigid and long term training program of various subspecialties. Psychiatrists devote themselves part or full time to the following: (1) general psychiatry, (2) teaching, (3) research, (4) psychoanalysis, (5) administration, (6) public health, (7) child, (8) forensic or legal, (9) industrial or occupational, (10) retardation. There is a strong trend toward community and social psychiatry, and geriatrics. The American Board of Psychiatry and Neurology recognizes child psychiatry as a formal subspecialty with its own certification board under the parent body.

Shortages in psychiatry have been estimated as one-half to one-third of those needed. There is an increasing number entering psychiatry each year, approximately 750 net increase, but with the rising population the total number available today is likely never to be tripled. Shortages are complicated by distribution and utilization, and in overcoming this perhaps great increases in total mental health manpower can be achieved.

APA Commission on Psychiatric Manpower

The Commission on Manpower was established in the American Psychiatric Association in 1963 to stimulate action to alleviate the shortage of psychiatrists. In conjunction with this effort, the National Institute of Mental Health Manpower Studies Program and the American Psychiatric Association in 1963 entered into a contract to explore and establish a five year psychiatric Manpower Studies Program of basic data collection and special research to provide information about the characteristics of psychiatrists and the factors involved in their supply-demand and inflow-outflow.[23]

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[22] Blain, Daniel, M.D. *Manual of Church and Mental Health* (in preparation).

The chairman of the personnel section of the AMA Congress on Mental Health, in 1961 later became chairman of the Commission on Manpower of the APA. Hence, there was a continuity of effort in regard to the method of going about mental health manpower improvement.

Thus, American psychiatry has involved itself at the roots of the manpower problem: information and action. Their relationship can aptly be described by a quotation from Wolfle. In expressing optimism about mobilizing American society to solve the "manpower problem," he also stressed the importance of manpower information:

"The collection of detailed information concerning specialized manpower is of practical value to the extent that the findings are useful in shaping manpower policies or in helping individuals to make better career decisions. . . . Facts are the most important element in the establishment of manpower policy, even though facts about a particular issue are never used alone. Information about related issues, relative priorities, and the values attached to different procedures and purposes are all involved. But reliable information upon which to predict the effects of policy decisions is a much sought after element, and success of a program is likely to be directly dependent upon the adequacy of the information which led to its formulation."[24]

The commission adopted the five areas of operation brought out in the first AMA Congress on Mental Health.[25] These are recruitment, utilization, training, research, and reducing the load. These are elaborated to some extent:

1. Recruitment into psychiatry as a specialty, into the various subspecialties, into geographical areas and treatment programs which are especially low, such as rural areas and public hospitals.

2. Better utilization may be furthered (a) by redefining the functions of psychiatrists, nurses, social workers and others; (b) by reassigning duties and responsibilities of various categories of personnel in the light of their specific training and the special needs of patients; (c) by delegating responsibilities from the more highly trained to the less highly trained with adequate supervision; (d) by modifying organizational structure and lines of authority to increase the administrative efficiency; (e) by increasing in-service training; (f) by making greater use of outside organizations and groups to assist in treatment; (g) by decreasing our reliance on residential treatment with its high personnel demands, in community services with the patients living at home, in foster homes or in quasi or simplified hospital facilities.

3. By improvements in the training of psychiatrists to answer properly the question brought by Dr. Francis Gerty, "training for what?" (New emphasis was brought out by the conference on "Training the Psychiatrist to Meet Changing Needs.")

4. Research into utilization, efficiency of the administrative, organizational and therapeutic procedures, the evaluation of work performed, search of ways and means by which assistance can be obtained from others outside the medical profession.

5. Reduction of the patient load for the maintenance of current personnel. It is the unfortunate, uneconomical personnel policy in some states to reduce personnel as patient population is reduced, thereby maintaining the same low ratio. It has been definitely proved that more adequate staffing treats patients better, gets them out of the hospital faster, reduces the total number quicker. There are various ways of reducing the load in addition to the obvious breakthrough in treatment and prevention; others are: earlier treatment which prevent many patients from becoming chronic; classification of patients on the basis of supervisory need and ambulation and transferring many out of the mental hospitals to their homes or other forms of residential care, with the chance to go for treatment in a day center nearby or to utilize nursing care; the general physician with some psychiatric consultation; and a strong possibility that highly organized and successful attempts to reach people under intolerable stress, relieve their stress by nonpsychiatric means, before breakdown, will markedly reduce the number requesting psychiatric assistance.

The Commission on Manpower has produced a number of manpower bulletins[26] including (1) the number of practicing psychiatrists by state and ratio to population, by state and sex, by type of practice and number of hours worked; (2) the number of practicing psychiatrists by state and certification, those who work in the United States, by age, sex, and major interest; (3) number of practicing psychiatrists analyzed by undergraduate school in year of graduation, by medical school in date of graduation, by residency training center and date of last year attended and (4) pertinent data on psychiatrists working in state hospitals; (5) undergraduate college curricula followed by medical students. The training division of NIMH is also issuing a psychiatric manpower bulletin.

Of major importance are two facts brought out in these studies. One is the close parallel between the number of psychiatrists in the state and the number of other physicians, the individual and family income of its citizens, and the number of college graduates among those over 25 years of age. These studies also brought out the fact that three-fourths of the counties of all the states have no psychiatrists or formal mental health program. In some states this amounts to 50 or 60 percent of the total population. In some of the largest states the rural counties are very small. For example, in California and New York something like half of the counties which have no services contain only 3 or 4 percent of the total population. The rural problem is nevertheless of great importance to many thousands who still reside there. Special devices must be employed such as the coverage by personal plane of community services in Omaha, and outpatient posts in nearby Nevada and California by a private practicing psychiatrist in Reno, Nevada.

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[23] Lockman, Robert L., Ph.D. *Formulation of Manpower Studies Program.* American Psychiatric Association, Washington, D.C., August 1964.

[24] Wolfle, D., *op. cit.*

[25] Proceedings A.M.A. Conference on Mental Health, Chicago, 1962.

[26] Manpower Bulletins, published under auspices of Commission on Manpower, American Psychiatric Association, Washington, 1964.

Funkenstein has shown that the numbers of psychiatrists are also related to the presence of a strong residency training program, a strong department of psychiatry in a medical school and the fact that these programs actually exist in a state. For example, 84 percent of those trained at the Langley Porter Neuropsychiatric Institute in San Francisco have remained in California.

Women in Psychiatry. In considering the number of women available to pursue scientific and professional careers, and the fact that only 6.5 percent of physicians in the country are women, and that 11 percent of these physicians are psychiatrists obviously a great source of womanpower is neglected here. Special programs are being considered by the representative of this group in the Manpower Commission, and the commission as a whole is working toward changing the general idea of women in medicine and encouraging more to go into medicine, hopefully then recruiting them into psychiatry.

Negroes and Spanish-Speaking Psychiatrists. The Negro group in this country, with its very low number of physicians, is again a source of manpower, provided that the major problem of upgrading elementary, high school, and college training is overcome so that those who want to study medicine can be admitted. These problems are particularly true in the South, where the primary professional objectives of educated Negroes are the ministry, the teaching profession and medicine. Spanish-speaking physicians as well as psychiatrists are scarce, yet there are large numbers of Mexican and Puerto Rican people who are in the United States and have great difficulty in communicating their health needs or utilizing what is available. Special efforts need to be made for this group as well. Certain medical schools in the Southwest are particularly interested in the training of Spanish-speaking physicians.

Certain special areas are particularly short in psychiatry. These are child psychiatry, mental retardation, industrial, forensic, public health and community psychiatry, research and teaching. Most psychiatrists are in private practice at least on a part-time basis, as most public hospital staff persons see some private patients.

The APA Commission on Manpower, in addition to its primary responsibility of working toward the recruitment of psychiatrists, also was host to some 15 professional groups who are associated with people working full time in psychiatry. This was done for purpose of exchange of information and where it could be worked out, mutual assistance between the groups was encouraged. These meetings have been held twice, and will be called periodically on suitable occasions.

It seems worthwhile at this point to mention a few of the interesting things that were brought out in these meetings.[27]

The American Nurses' Association and National League for Nursing. Through nurses registered in state boards, information on current activity and preparation is obtainable and is being studied. The nursing profession, through these organizations, supports career programs, part of the Student Recruitment Project, operates a placement and counseling service without charge, employes a full time lobbyist and public relations staff in Washington, provides a nursing consultant defining levels of practice when requested throughout the country, gives priority to mental health manpower needs, cooperates with practical nurse education programs, is attempting to get psychiatric nursing into the curriculum for licensed practical nurses, and has a program for continuing education to improve practice in clinical facilities. Studies are underway on the ratio of R.N.'s to patients, nursing salaries, and nursing school dropouts.

The Occupational Therapy Association has employed an educational consultant and a public relations director to assist in recruitment. Each state association has a recruitment chairman. Career brochures have been published for high school, junior college, and college students. It has promoted seven schools for O.T. assistant training, is moving toward a M.S. level requirement, and is attempting to encourage retired and inactive O.T.'s to go back into the field.

The American Medical Association, through its Council on Mental Health, is promoting public education, and has had two congresses on mental health. The Council on Medical Education is working closely with the Association of American Medical Colleges. The Nursing Committee is concerned with manpower problems. Various divisions of the AMA are now exploring ways to activate a manpower program, strongly recommended by the Council on Mental Health, but held back until all divisions could be included.

Future Physicians' Clubs are functioning in some states, and a number of independent programs exist, but these are not coordinated through the A.M.A.

The American Psychological Association has prepared a booklet, *Careers in Psychology,* distributed to all junior and four-year colleges and to state supervisory personnel; it has also stimulated psychology projects in high school science fairs, and promoted an organization called "Psych-Hi" to foster interest in the profession. It has studied trends in college departments of psychology and has collected, for computer work, manpower data, particularly on economic and employment factors about psychologists. Clinical psychologists with Ph.D. degrees number about 6,000. About 15 percent of all psychologists of various educational levels are in counseling and guidance.

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[27] Minutes, Commission on Manpower, Meeting, February 5, 1964, American Psychiatric Association, Washington, D.C.

National Institute of Mental Health. From the inception of the National Institute of Mental Health Training programs in 1947 through 1965, the Training and Manpower Resources Branch has supported one or more years of full-time training of approximately 7,000 psychiatrists; 5,600 psychologists; 9,000 psychiatric and other social workers; 3,800 psychiatric nurses; 250 public health mental health workers; 600 in the biological sciences; 850 in the social sciences; and 600 in various types of pilot training projects in mental health.

The National Institute of Mental Health has established the National Clearinghouse for Mental Health information to keep abreast of and to classify the literature pertaining to all aspects of mental health. Recently, there has also been established the Mental Health Manpower Studies Unit within the Training and Manpower Resources Branch. This group is concerned with the collection and organization of national mental health manpower data and has been contracting with various professional organizations to furnish personnel data. Information concerning these two operations, as well as financial assistance in research and training for various groups, is obtainable from the National Institute of Mental Health, Bethesda, Maryland 20014.

The Association of American Medical Colleges is continuing its studies of applicants for medical school and various attributes of medical students. Persons entering psychiatry have high verbal ability, incline toward philosophy, and are low in quantitative ability in science. This organization has a close association with the A.P.A. Manpower Commission. "Datagrams" issued periodically are most informative, covering various aspects of studies underway.

The National Association of Mental Health has a career program, distributes literature, contacts high school counselors, and has liaison with the National Health Council and its career program. Attempts are made to influence the federal and state government authorities in terms of appropriations for personnel, ratios, standards, etc.

The National Association of Private Psychiatric Hospitals is studying personnel needs of its member hospitals, working with the United States Employment Service. Some hospitals hold "student career days."

The American Medical Women's Association members are available to speak to high schools and council students who are making inquiries. They firmly believe there is more opportunity in psychiatry for women than in any other medical specialty. Women live longer than men and make up time taken out for children.

The National Association of State Mental Health Program Directors is making special efforts in grading personnel in state hospitals, collecting information in state mental hygiene programs, and making this information available to leaders in each state.

The National Committee Against Mental Illness has lobbies on federal and state legislation, and federal appropriations especially for training and research. It has led the effort toward establishing training programs for general practitioners, as well as for staffing of mental health centers.

The National Association for Social Work has elaborate and active programs for recruitment into social work, although its members were unable to attend the meeting.

The Veterans Administration has physicians and psychologists in training. As of 1961, 15 percent of all psychiatrists in active work in the United States were trained by the Veterans Administration.

Full-time professionals in the mental health field, in addition to psychiatrists and physicians trained in pediatrics, neurology, public health and other fields, also include clinical psychologists, psychiatric social workers, and psychiatric nurses.

Clinical psychologists holding doctorates are among the most able persons in the mental health field, and should be encouraged to increase their numbers to the greatest possible extent. Their annual increase appears to be less than the increase in psychiatrists, and many are working in education and industry, so the amount of help to be obtained from this group is not as much as was originally hoped. The legal position of clinical psychologists, as responsible therapists, is unclear in many states. Conflicts between the field of psychology and organized medicine and organized psychiatry should be worked out for the overall good of both professions and for the good of mental patients. The emphasis by some on independent therapeutic efforts causes the importance of the skills of psychologists in research, teaching, and testing to be overlooked. There is some merit in the proposal that clinical psychology include in its curriculum some of the basic sciences which medical students get such as physiology, pharmacology, and pathology, as well as psychiatric courses. The advantage of a combination of these two professions is found in the important few who hold degrees in both psychology and in medicine, and are trained in psychiatry.

Psychiatric social workers have been organized longer in their training and operations and have better standardized their curriculum and their performance than any other professional group. It appears to be important that the shortage of highly trained social workers be supplemented by others with somewhat less training, just as psychiatrists are supplemented by general physicians. Also it is necessary that more graduate schools in medical (psychiatric) training programs be created and better distributed than at present. The current emphasis on personal and family relations of patients, which is occurring in the field of psychiatric nursing, might well be a stimulus to those in the field of social work to get some training in nursing, particularly public health nursing. The numbers of opportunities for field work training in all the hospitals and clinics of the country must be increased to increase the number of medical social workers training in psychiatry.

The field of psychiatric nursing probably constitutes the most important link in working with mental patients in institutions. Psychiatric nurses have by tradition the closest association with the psychiatrists and the patients. Recruitment for mental hospitals has been difficult, due to salary, professional status, and often the enormous efforts necessary to deal with an unsatisfactorily large number of patients. Perhaps the most important addition to the current curriculum of nursing would lie in highly developed in-service training programs for professional nurses who are employed to give them an opportunity to advance their skills with high grade teaching over and above the opportunities now available in university master's degree programs in psychiatric and mental health nursing. Inducement for graduates of these university courses to remain in clinical settings must be raised, as too many are finding their way into other related fields. The nursing profession is to be congratulated on the splendid appropriation from Congress to advance the whole field of nursing with special reference to training.

The section devoted to "Maximum Mental Health Potential" includes, of course, nonprofessional persons, but no special emphasis was given to certain groups who are gaining for themselves enormously important places in the whole mental health field. Among these are nonprofessional nursing groups such as technicians or aides who are rapidly becoming the backbone of therapy in mental hospitals because of the obvious abilities which many have and because the shortage of professional nurses leaves a vacuum. Training for this group has advanced in spectacular ways since World War II. In the Veterans Administration, in many state hospital systems, in many general hospitals and in leading private mental hospitals the general principle of utilizing the highest skilled to supervise and consult with those less skilled and trusting them with increasing responsibility for the care of sick people appears to be sound and is proving advantageous throughout the nation.

Conclusion

Albee,[28] in his report to the joint commission, closes with a pessimism which is logical in view of the assumption that work in the future will be done by a few small professional groups. He says: "Our country will continue to be faced with serious shortages in all fields related to mental illness and mental health for many years to come. Barring the possibility of a massive national effort in all areas of education, with all of the social changes such an effort would imply, or the possibility of a sharp breakthrough in mental health research, the prospects are pessimistic for significant improvements in the quantity or quality of professional services in these fields."

However, there is an optimistic side to the picture. Evidence grows that the mental conditions are more and more properly treated, more and more preventable, particularly in the field of retardation, and more related to social factors in causation, amelioration and cure. It is obvious that more personnel are being brought into the picture to exert a favorable influence all along the line. A shift in the utilization of psychiatrists, psychologists, psychiatric nurses and social workers, working more as consultants and supervisors, is likely to be a greater source in increasing psychiatric skills than depending on tripling the number of psychiatrists. The hope of a far greater participation in the total medical profession is even more encouraging. There is also the shift toward community services located where the population is the largest, where personnel are more available. Furthermore, relief of intolerable stress as the organizations of welfare workers are brought to bear more efficiently with generic social work methods, primarily attacking the external stress and preventing breakdown, will undoubtedly play a part in producing better coverage for the smaller load that will persist. The rural areas will necessarily continue to be treated very specifically but patterns are developing which should be of value to various rural situations.

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[28] Albee, *op. cit.*

Scientific and Medical Manpower for Mental Health Programs

by

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Manpower for the future in any professional area is subject to the influence of many factors. Some of these factors are easily defined and determined, whereas others are highly nebulous. We can, with some degree of certainty, estimate our population to the year 2000 and, in fact, nearly all who will obtain Ph.D.'s by 2000 have now been born, or the estimated number to be born in the next decade is reasonably certain.

It should be noted in Figure 1 that we have given three different curves as representing the approximate population of college entrance age (18), the college graduation and medical school entrance age (22) and entrance to medical practice or Ph.D. graduation age (28). One should note from these data that our population does not grow at a steady rate but rather that births have been influenced by depression years and wars so that the war-baby boom of the 1940's is reflected in the nearly doubling of the 22-year age group in a 15-year period between 1960 and 1975. During the period of 1930 to 1960 we had a nearly constant college graduate (22-year age) group at about 2.2 million each year, but from 1960 to 1975 the 22-year-old group increased from 2.2 to 3.7 million.[1]

One wonders if the planners for the future of American youth are taking into consideration these abrupt changes in our population. One could say that the low expansion rate of our medical schools from 1930 to 1960 (22,000 students in 1930 as compared with 30,000 in 1960) was due to a decision to hold the medical school enrollments level with the nearly constant supply of the college age group. However, for quite some time our total population has been expanding, in spite of a constant college age group. This expansion has been due to the increased birth rate after World War II and the increased life span, which has added more old people to the population. It has been well established that the need for medical treatment is greatest for the individual in the first 10 years of life and after the age of 60 so that, with the increases in these two areas, we should, in fact, have raised the ceiling long ago on the limited number of M.D.'s who are permitted to be graduated. During the last 60 years the production rate of M.D. graduates has been nearly constant and only during the peak of World War II was there a brief relaxation of the limitations.

With the great growth of science in this century there has been an extensive expansion of the number of trained scientists. Since 1900 the annual number of Ph.D. degrees graduated has doubled about every 10 years. By 1930 the annual number conferred was 2,000, by 1960 some 10,000 degrees were awarded, and in 1970 we expect to award some 20,000 Ph.D. degrees.[2] The growth of scientific research has also brought with it, in the health field, a demand for some M.D.'s to participate in research, which has further depleted the number of M.D.'s available for medical practice and service for the public need. The ceiling or controlling factor on Ph.D.'s has been the number of qualified students who apply, and facilities or funds as required have been found to maintain proper teaching staffs and working standards. A comment from a member of the staff of the National Institutes of Health before a recent congressional hearing notes:

> "Thus, it appears that two diametrically opposite considerations will govern the output of M.D.'s and Ph.D.'s during this decade. M.D. output is, in a large measure, fixed by the spaces available in existing schools and the new spaces made available by the establishiment of new schools. Ph.D. output, in contrast, will be governed by the number of well-qualified students desiring and undertaking graduate study."[3]

In my discussion on "Evidence of Approaching Ceilings in the Supply of Scientific Manpower," I have pointed out that in some areas we are beginning to see evidence of saturation or limit of qualified personnel and that future increases in workers in these areas will be determined to a greater degree by changes in the potential raw material supply (increases or decreases in the number of the student age group). This ceiling or saturation in the area of science and engineering appears to be at about 4 percent of the age group. It is established, however, by the limit in the supply of qualified candidates for these professions and not by any predetermined number which controls the supply.[4]

In the medical professions it would appear that such areas as nursing, clinical psychology, laboratory technicians and the like are expected to rise with the expanding population and increasing research needs. We expect to double this medical supporting staff for practice and research in the next two decades. But in the case of the M.D.'s, it is expected that the number of M.D.'s per 100,000 population will actually drop from about 132 to 125 in this same period.[5]

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[1] *Current U.S. Census Bureau Reports,* P-50 series; 1960 census—population by age and mortality rates; see also *Statistical Abstract of the United States,* U.S. Census Bur. Publ. (annual).

[2] *Doctorate Production in U.S. Universities, 1920–1962,* NAS-NRC Publ. 1142 (1963).

[3] *Appropriation Hearings,* House of Representatives for 1963, Dept. of H.E.W., part 4, "Report on Manpower for Medical Research," p. 102.

[4] Wallace R. Brode, "Approaching Ceilings in the Supply of Scientific Manpower," *Science,* 143, 313 (1964).

For a number of years the medical schools have rather boasted that about twice as many prepared for medicine and applied for admission to the medical school as were finally accepted. As a professor of organic chemistry with annual classes of some 300 premed students, I was for many years aware that grades were often a low factor in determining admission to a medical school, and have noted the movement of bright students into Ph.D. careers in biochemistry, psychology and other medically oriented research areas, as well as a gradual increase in recent years of the number of students withdrawing from medical schools for "academic reasons." Although the number of students in our universities, and those going into science, has been growing in the last few decades, the number of applicants to medical schools has not appreciably increased. To some extent this must imply a frustration and discouragement, even among bright students who may realize that even with high grades there is little possibility of selection to medical school unless one can develop other correlative pressure factors to attain admission.

Two recent surveys supply interesting data with regard to the premed student and his ultimate career. These are a report from the National Merit Scholarship Corporation and one from the National Opinion Research Center. The National Merit Scholarship group annually examines over 500,000 high school students and awards scholarships to the top 1 percent of the high school class. They report that, in a study of a representative group of these scholars, over half of those who aspire to become M.D.'s as freshmen move to other careers prior to college graduation. A somewhat similar study by the National Opinion Research Center, on a much larger group of students, but covering all levels of graduates rather than just the bright students, notes that, of the freshmen who thought they would enter medicine, only 43 percent as seniors were still headed in this direction. The medical school selection of only 1 out of 1.8 applicants further cuts this percent down to 24 percent. Since the original group of "premed" oriented freshmen constituted 5 percent of the class, this results in 1.2 percent of the class ultimately getting into medicine. By 1975, with increased numbers in the age group this will probably result in about 0.8 percent of the class being admitted, and at present attrition rates in medical schools this would imply about 0.7 percent graduating.

For some who are determined to be M.D.'s, the solution has been, in recent years, to go to foreign countries to attain an M.D. since other countries do not restrict admission of qualified students as we do. In the past few years we have had about 1,600 new M.D.'s arrive each year from other countries. These are generally treated in statistical tabulations as "foreign" doctors. About one-fifth of our hospital internships and residents are now filled by "foreign" doctors. With this help, however, we are still having problems with vacancies in 20 percent of the approved hospital internships. There has been some published expression and considerable discussion about trying to close off this foreign flow, which threatens the existing balance and is preventing the lowering of the doctor/population ratio to an apparent goal of about 100 per 100,000. In recent tables predicting the future supply of M.D.'s up to 1975 (issued by the U.S. Public Health Service), the calculations have been made both on the assumption that the present incoming rate of foreign-trained M.D.'s (1,600 per year) might be maintained, and also a separate calculation assuming that this influx would be halted and that no foreign M.D.'s would be licensed after 1965.[6]

Professional scientists do not require licensing to practice in this country, and we permit qualified students and experts to come from other countries. There has been no serious discussion or consideration of limiting of foreign-born and foreign-educated scientists such as an Einstein or Fermi, yet in the case of foreign-educated M.D.'s who come to this country, there has been discussion on limiting their work here even though about two-thirds of them are American citizens who went abroad to study medicine. As a Guggenheim Fellow, I studied science abroad in Germany and England, yet I would resent being called a "foreign scientist" or having had an impediment placed in the way of accepting a professorship in an American university because of my having done some of my work in Europe. I do not believe any laws could be devised to prevent U.S. citizens from returning to this country after taking a degree from a foreign university. If there were a large excess of unemployed M.D.'s, school teachers, or other controlled or licensed professions, it might be possible to devise laws to limit practice to graduates of universities in a specific state. However, if there is a shortage of manpower, and if one wishes to obtain the best qualified staff available, it would seem unreasonable to limit the selection to residents or graduates from specific schools. All who wish to practice should properly qualify but the test of qualification must be reasonable enough to admit all of those who are adequately trained.

It is quite likely that the annual number of foreign-trained M.D.'s coming to this country will more than double by the end of the next decade, and that more than half of these will be United States citizens. The reason for this should be obvious, for the proposed expansion of medical schools, which is still in the planning stage, will provide a mere token increase which does not even keep up with the proportional population increase expected in this period (a proposed increase from 7,500 graduates in 1960 to 9,000 graduates in 1975). This proposed 20-percent increase is to take place over a 15-year period, when the college graduating age group is expected to expand from 2.2 million to 3.7 million, or a 70-percent increase.[7] While today about 2 percent of the college graduates may expect to study medicine, by 1975 the opportunity will be cut to about 1.2 percent. The medical projection data recognize this great youth expansion by merely indicating that they expect the number of applicants per available appointment to rise from 1.8 applicants per acceptance in 1960 to 3.3 applicants per acceptance in 1975.[8] Certainly, if only 1.2 percent of the college graduating group is to be accepted in 1975, as compared with the 2 percent of today's graduating class, then the more limited selection will tend to become even more political and influenced, and less dependent on academic status. The low probability of acceptance and need for increased numbers of applications for each student will certainly drive more qualified students to foreign schools or Ph.D. careers in lieu of M.D. degrees in this country.

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[5] M. Y. Pennell, *Health Manpower Source Book*, Section 18 "Manpower in the 1960's," Dept. of H.E.W., U.S. Public Health Service (1964).

[6] *Physicians for a Growing America*, U.S. Public Health Service Publ. No. 709 (1959). (Bane report.)

By 1980 the opportunity to study medicine in this country may well be less than 1 percent of the graduating class (0.2 percent of the age group) and if the proportion of the age group graduating from college by 1980 rises to about 27 percent from the present 18 percent, then the probability of a college graduate being admitted to a medical school in this country will drop to about 0.7 percent. By this time, if impediments are not placed on foreign training, it would be expected that probably an equal number of U.S. students would go abroad for training so that the total number of trained M.D.'s per year might approximate about 0.4 percent of the age group as compared with 0.8 percent of the age group which we produce today.[9]

If we are to have additional medically trained personnel for research and expanded clinical services which are not being done now, it must be obvious that we must increase our M.D. production over the bare minimum which suffices to maintain the present status in the medical areas of practice and research. To effect this expansion requires a different approach if there appears to be no hope of expanding our medical schools to keep up with more than the population increase. Planned programs in additional research and services will certainly require more than the limited number we have today.

Several approaches seem possible. It is not so long ago in time, especially if one considers the long period of natural evolution, since we separated the profession of "barber-surgeon" into that of the barber and that of the surgeon. Each trade or profession still involves training colleges, examinations, strict licensing to practice, and limitations as to the number of participants. Perhaps the time has come to evaluate the medical curriculum again and to create some additional cleavages.

The M.D. degree, in the early part of this century, was a general practice degree, and the pattern still remains. Nevertheless, the tendency today is to specialize with postdoctoral training and to concentrate on a specific area. Much that is required for the general M.D. degree may have little use in the specialty area.

In science there has been a continued evolution of new science departments and degrees, such as biophysics and biochemistry, in which the candidate takes work in more than one area so as to effect an efficient training, but does not take a Ph.D. degree first in physics and then another Ph.D. degree in zoology. Rather, he takes essential work in both fields and omits nonessential work in both fields.

In the medical training area, the stereotyped M.D. is taken by all, and then if one is to be a specialist in mental health, heart surgery, or other area he has to take several additional years of training in his specialty. If there is a need for more M.D.'s and, in particular, mental health specialists, one would think that a degree, such as doctor of psychiatry, or an M.D. in psychiatry could be evolved which would include most of the psychiatric training given in the specialist training, along with the essential parts of the M.D. training, and that this program could be effected by expansion of a limited number of regular medical school classes, much as our graduate schools have expanded to handle increased loads in the graduate area. Specialization for mental health should be possible in a combined curriculum which should be able to accommodate some of the qualified students who wish to enter medicine but now find no opportunity.

If the number of M.D.'s produced does not prove sufficient, then it seems most logical that the responsibility for research leadership must devolve on the clinical psychologist, biochemist, physiologist, and other trained Ph.D.'s whose preparation can well include such background as is essential to conduct proper research in mental health. Just as the M.D. takes specialized psychiatric training to engage in mental health work, so it would seem reasonable that the clinical psychologist with a Ph.D. degree might take a well planned "specialist" training of a year or two, involving essential portions of medical and psychiatric training so as to provide needed personnel who could guide and direct mental health research and treatment. The expected reduction in the number of M.D.'s per 100,000 population, which will probably take place in the near future, coupled with the large number of M.D.'s who will be drawn off of this limited supply for research and expected expansions in mental health treatment and other medical programs which require individual contact, all will require additional competent personnel. The expansion of the training and responsibility of the scientifically prepared worker to take over some of this work seems to be a reasonable solution.

Mental-health-supporting medical staff is probably the first of the major areas which will feel a shortage of M.D.'s and the need for another type of trained clinical staff to conduct research and treatment. This is due to the fact that, while the average medical practice and research area has less than 5 percent foreign-trained M.D.'s in the group, in mental health about one-third of the staff, including psychiatrists, psychiatric residents, and other physicians in mental health establishments, are foreign trained. While the writer of this report has himself studied abroad and has considerable confidence in the quality and competence of foreign training, he is also aware of the negative attitude on the part of some of the medical profession towards foreign-trained personnel. The one-third foreign staff in mental health institutions is, to some extent, an indication that this area of medical service would be in a difficult position if action were to be taken to limit the practice of foreign-trained personnel in this country.

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[7] *Ibid.*, p. 15.

[8] Robert C. Nichols, "Career Decisions of Very Able Students," *Science* 144, 1315 (1964).

[9] James A. Davis, *Great Aspirations*, Aldine Publishing Company, Chicago, 1964.

I do not feel that mental health will be able to obtain more than its reasonable share either of M.D.'s or of scientists. Some of those who plan for the future are not so concerned about increasing the total output of either M.D.'s or Ph.D.'s, as they are in capturing a larger percentage of the "crop." This concept is also held by leaders in other fields and in the end leads to inflation and to frustration. A logical program requires coordination of competing interests and a reasonable supply to meet all demands. If the supply fails, then some form of rationing, rather than competitive bidding, should be evolved. Rationing is probably best handled by limitation of funds.

From the standpoint of Ph.D. personnel for research, we may expect to be producing about double the present annual supply by 1975, due to the increase in the age group, and a modest increase in the percentage of the age group going on for the Ph.D. This should provide an ample supply, since many other areas do not expect to expand as rapidly as the rise in the youth population or the number of Ph.D.'s being produced by 1975.

While the medical profession may not welcome the idea, there is no doubt but that modern science and automation in the form of electronic diagnostic machines and physical, chemical, and biological procedures and materials will change present-day methods of treatment and contact. We may expect that automation and instrumentation will certainly take the place of some personnel. More personnel with different training will be required to interpret data, but only until machines can be programmed to make the interpretations. This implies gradual shifts in training of research workers and specialists. In the end, the enforced limited supply of M.D.'s may be a blessing in disguise in forcing the more rapid development of diagnostic machines and programmed treatment with electronic control.

There would appear to be divergent points of view with respect to foreign-trained M.D.'s. Some would maintain that all foreign degrees are bad and should be excluded. Some future projections in the supply of M.D.'s contemplate complete exclusion of foreign-trained personnel in medical research. It would be assumed that these proponents would exclude both Ph.D.'s and M.D.'s from abroad, although only M.D.'s appear to be their immediate objective. Some government projections, while recognizing that about 20 percent of today's annual increase in M.D.'s in this country (1,600 out of 9,000) come from abroad, still project a potential supply in 1975 with no foreign-trained M.D.'s included, even though this means a further reduction in the number of M.D's per 100,000 from about 153 today to about 146 in 1975.[10]

On the other hand, some of the promoters of medical research are predicting an increase in the total available M.D.'s for medical research, in which they accept the very limited proposed increase in United States production, which the anti-foreign-trained group also accept, but are also postulating an increase of foreign-trained personnel up to 2,000 per year by 1975 as compared with the 1,600 per year which are now entering.[11]

The Institute of International Education has commented on the status of these foreign-trained medical workers, many of whom are U.S. citizens who have gone abroad to obtain medical training, from which they have been excluded in this country. The institute comments on the efforts of the American Medical Association to establish more rigid criteria for foreign nationals who wish to train in U.S. hospitals, as an impediment toward training and positions. What is disturbing to those scientists who have studied abroad and are well acquainted with foreign universities and their professors is the campaign directed at "foreign-trained" or merely "foreign," rather than at inadequately trained personnel. The major influx of foreign-trained M.D.'s has only been within the past decade. In this period some 15,000 foreign-trained M.D.'s, about half of whom were U.S. citizens prior to taking training, have come to the United States from abroad. Were it not for this substantial aid to our medical research and practice program we would be in a much more awkward position in our shortage of medical personnel than we are today.[12]

The Institute of International Education, in reporting on foreign students in the United States and on United States students abroad, noted that 7 percent of the foreign students in the United States were in the medical sciences area, and that these included 1,208 students who were studying for the M.D. degree in our medical schools.[13] There were also, in 1963, some 1,080 faculty members in the field of medicine studying in the United States and over 7,000 foreign citizens with M.D.'s who were serving as interns and residents in U.S. hospitals. In 1962 there were 2.832 U.S. students studying medicine abroad with principal locations in Austria (402), Belgium (151), Germany (239), Italy (355), Netherlands (91), Spain (250), Switzerland (562), United Kingdom (133), Mexico (155), and Canada (312).

Concerning the steady influx of about 20 percent of our new licentiates in medicine of foreign-trained students, there is an interesting comment in a report to the U.S. Surgeon General from a commission headed by Frank Bane:

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[10] M. Y. Pennell, *op. cit.*, Section 9 (Physicians, Dentists, Nurses), Dept. of H.E.W., U.S. Public Health Service (1959), p. 25.

[11] *Ibid.*, p. 35.

[12] *Ibid.*, p. 39.

[13] *Open Doors, 1962*, Report on International Exchange, Institute of International Education, June 1962.

> "These figures raise the question of whether this country, with its wealth, should be dependent on other nations for a net inflow of physicians to serve our people, when there are so many urgent needs for medical services in other parts of the world. In no other field of education is there a situation in which the United States draws to the same extent on persons educated in other nations to maintain its high level of service."[14]

Mental health programs in institutions and research establishments have been growing more rapidly than almost any other medical specialty. It is to be expected that, in recruitment of new staff for an expanding program, a greater portion will come from recently trained personnel, rather than those who have established themselves in other areas or specialties. This probably explains, at least in part, the high percent of foreign personnel, about a third, in the psychiatrists, psychiatric residents, interns and physicians involved in the mental health program. The data on "foreign" personnel in the mental health program merely indicated those who were currently foreign nationals or who had become naturalized citizens of this country. It did not indicate whether the foreign national had obtained his M.D. degree in this country, nor did it indicate what proportion of the two-thirds of the staff who were native U.S. citizens had obtained their degrees or training abroad. We do know, however, that about 350 foreign nationals are graduated from our medical schools each year and that most of these are here on special scholarships with the stipulation that they will return to the country from which they came. Over 70 percent of this group of 350 come from underdeveloped areas.[15] It must be obvious that nearly all of this group of some 5,000 foreign nationals with medical training who are in the mental health areas have obtained their training abroad.

It would be expected that if the European medical training provides a satisfactory background for mental health medical work, and that if one-third of the medical staffs in our mental health institutions are foreign born and foreign trained, that many of the American citizens who studied abroad in medicine would also be attracted to the mental health area as a career. By reason of a developed interest in this area of study, and by reason of having friends and associates among the foreign citizen M.D.'s in the program, it would be expected that many of the foreign-trained Americans would choose mental health work as a profession. Hence it would be reasonable to assume, with 20 percent of the new M.D.'s in this country having foreign training, that certainly well over 50 percent of the staffs of mental institutions or research programs are foreign trained.

In a paper on medical and scientific personnel, one would not normally devote too much time to the 20 percent input of foreign-trained personnel to the medical component, were it not for the apparent shortage of M.D.'s and the limited proposed expansion of our own supply in the future. This 20 percent factor becomes more important when it in turn provides such a large portion of the workers in the mental health field. The mental health program would be in an awkward position if our supply of foreign-trained personnel were to be terminated, either by control pressure in this country, or by limitation of U.S. students by foreign institutions. On the other hand, if it is known that certain foreign institutions provide satisfactory training, especially for mental health workers, then the mental health supporters in this country would be well advised to provide a large number of scholarships and stipends to qualified U.S. students for foreign medical study in this institution, so that we might materially increase the number of U.S. citizens with this training.

It should of course be determined whether these schools are willing to expand to accept such numbers. The present indications are that foreign universities, providing reasonable fees or support are provided, are more likely to expand to accept a larger number of fee-paying students than are our own universities. In our universities it would appear that there were factors other than financial which may impede a reasonable expansion. Many European universities are known to have a similar attitude toward medical training as many of our major universities have toward Ph.D. training, namely that staff and facilities should be expanded and adjusted to meet the student requirement, rather than limiting the students to a predetermined number.

If sufficient support in fees and other grants were made available to some of these foreign areas, such as Switzerland, Sweden, Italy, and the Netherlands, it might even be possible to arrange for special instruction in the English language so as to remove some of the language barrier which may limit or slow down some of our students who go abroad. In addition it might also be possible to provide special psychiatric training and courses directed toward mental health problems.

The prediction of the number of scientists to be produced in the future follows an entirely different concept than the prediction of the number of M.D.'s to be produced. In contrast to the apparent nearly level production of M.D.'s, the Ph.D. and other science majors at all levels have been rising rapidly. Fifty years ago there were 10 times as many M.D.'s being granted annually as the number of Ph.D. degrees.[16] Today about the same number of M.D. and Ph.D. degrees are conferred (7,500), and by 1975 it is expected that nearly double this number of Ph.D. degrees will be annually produced. It is expected that the number of B.S. degrees will also increase at a rapid rate with a doubling in the annual number by 1970, over the number which were produced in 1960.

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[14] M. Y. Pennell, *op. cit.*, p. 38.

[15] *Ibid.*, p. 22.

[16] *Open Doors*, p. 13.

It is not easy to predict the proportion of these graduates who will either elect to work in mental health areas, or who will migrate to or remain in California. Some mental health manpower workers are convinced that if they have the funds they will be able to attract workers from other areas. Such a philosophy may hold with respect to nonprofessional workers, but professional personnel are not usually moved by money alone. The location for employment is of importance and California has an obvious advantage in this connection.

The supply of raw material may have a definite effect on the production rate. At times, production ceilings may be impressed so that oversupply of raw material may not create additional finished products, as in the case of M.D. production. In science, however, we have not approached any appreciable ceiling of training capacity, so that the total production will be largely influenced by the number of qualified students of ability with an interest in the area.

As noted in Figure 1, the supply of raw material (college age group) is rising rapidly in this decade. The 18-year group (college entrance) rises from 2.5 million to 3.7 million from 1960 to 1970. Those students who enter and do satisfactory work will graduate four years later and become the supply of material for the M.D. and Ph.D. students as well as those who go directly into research work as technicians and research assistants. Some six years later we may expect the same bulge in numbers of Ph.D. graduates and, to some extent, the foreign-trained U.S. citizens with M.D.'s.

It will be apparent that, while the Census Bureau figures are reasonably precise, the year in which the student of about 18 may go to college will depend to some extent on the time of year in which he became 18, the nature of his elementary education program, and his financial status. Hence, we may expect some rounding off of the abrupt population growth effects and a spread of the 70 percent increase effect over several years.

College enrollment and graduations, both actual and predicted, for the next decade reflect, to some extent, the population changes and will, in turn, provide proportional increases in the number of science majors. Some of the future predictions, however, are based on extrapolation of demand program rate of growth, such as space, nuclear, etc., and are not realistically based on the supply potential. Such demand programs assume that anyone can be a scientist and that the number of scientists or engineers possible is limited only by the total population. The demand group has been engaged in a pressure program in our elementary schools to recruit high school students to become scientists and engineers—and this has included the health program as well. The result is that nearly a third of those who start to college plan on enrollment to be scientists, psychologists, engineers, or medical doctors, but, by the time these students are graduating seniors, over half of them have changed to a major in humanities, social studies, education, or commerce. Studies now in progress indicate that we may be overemphasizing science to our high school students and graduates, and that the migration from science to humanities in college is a natural realignment.[17]

Not only do 50 percent of the freshmen who start to college leave college prior to graduation, but of those who are left, half leave science, medicine, and engineering for other areas (Figure 5). In the case of medicine, about half of those who graduate in premedicine are rejected (for lack of space) by the medical schools.

The more optimistic "demand" projections would contemplate a production of about 275,000 B.S. degrees in science and engineering and 10,000 Ph.D. degrees by 1975—but this would require for the B.S. degrees about 33 percent of all the B.S. graduates as compared to 20 percent of the B.S. graduates who are today in science and engineering.[18] These calculations also contemplate an increase in the percentage of the age group graduates from college to rise from the present 20 percent of the age group to nearly 30 percent of the age group by 1975. As we have discussed[4] in an earlier paper, these extrapolations on the "demand" basis rather than supply would appear to be exceeding the ceiling of ability and interest. More conservative estimates of future numbers of scientists and engineers, based on supply, would indicate[4] a reasonable agreement with our predictions that, by 1975, the total annual B.S. graduates in science and engineering should approximate 175,000 out of some 800,000 graduates.

Figure 6, which has been developed from U.S. Office of Education data, may provide some general information in the area of interest with regard to future supply of scientific and medical research personnel up to 1975.

Further in the future we may expect, by reason of a present-day reduced rate of birth rate and population expansion (1.3 to 1.4 percent), a reduction in the rate of increase in number of college graduates from 1980 to 2000.

Figure 4 provides a summation of expected total numbers of scientists and engineers and, at the same time, is indicative of the fact that we must recognize that ultimately our programs must be geared in manpower demand to the population growth rate and to that portion of the population with ability in the area concerned. If the supply does not meet our needs we will have to seek imported foreign assistance and a planned distribution of the available supply.

A most important movement for the future of science and engineering is the introduction of science at an earlier age, the new mathematics curriculum, and an improved science curriculum in high school and college, in order to increase the rate of absorption and produce improved quality in those who are to be scientists. Our hope for greater advancement when ceilings are reached is to improve the quality of our product.

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[4] Wallace R. Brode, "Approaching Ceilings in the Supply of Scientific Manpower," *Science*, 143, 313 (1964).

[17] James A. Davis, *loc. cit.*

[18] *Projections of Education Statistics to 1973–74*, U.S. Office of Education, OE 10030 (1964).

In the last five years there has been a small but significant increase in the percentage of the B.S. graduates in chemistry who have completed the more thorough A.C.S. curriculum (52 percent in 1960 to 58 percent in 1964) as well as a 22-percent increase in the absolute number (4,600 in 1960 to 5,600 in 1964). This would indicate that the professionally minded student in chemistry was continuing to reach the B.S. graduation level in spite of some tightening of admission requirements in some colleges. I would not claim, nor does the American Chemical Society, that only those who complete the A.C.S. curriculum are professionally oriented but, over the several decades during which the A.C.S. program has operated, it has been an excellent "barometer" to judge the rate of flow. The fact that 25 percent of our Ph.D.'s in chemistry are conferred on students who did not go to one of the 316 A.C.S.-certified schools would indicate that many of the remaining schools, which give B.S. degrees in chemistry but are not on the A.C.S. list, produce qualified Ph.D. candidates. The A.C.S. certification is not a requirement; it is given only after the school invites an inspection, and many well-known schools decline to request the inspection.

A hopeful sign of an approach to the more rational matching of supply and demand is to be noted in a recent survey report of the Engineering Manpower Commission, in which it is noted that expected future demand for engineers and physical scientists had been reduced to more nearly match the expected available supply.[19]

We should be disturbed if the production of scientists and engineers does not remain constant at about 4 to 5 percent of the age group, which has been attained in the past decade. With the broadening of the academic areas to include courses for many high school graduates in business, education, and applied professional areas (optometry, police, pharmacy, journalism, specialized education, speech, etc.), we may well expect the percentage of the college students and graduates in science and engineering to drop from its present 20 percent of the students. It is the percentage of the age group rather than relative distribution of students in various curricula which should be used to evaluate the status of our scientific and engineering programs. With the marked population increase of college age students in the decade from 1960 to 1970, we must not be satisfied with an apparent growth in science and engineering by reason of numbers, when, in fact, it could be that we are losing ground, based on the percent of the age group which is involved.

In general, we do not know at what point in the college career the migration takes place from science, engineering, or psychology to the nonscience areas of study. We also do not know at what point the student who is going to withdraw will leave the university, or for that matter, the precise reason, such as completion of a technical two year course, health, academic failure, financial, or personal reasons. We do know that half of those who graduate, and said as freshmen that they were going to be a scientist or an engineer, migrated to a nonscience major prior to graduation.

The U.S. Office of Education made a special survey[20] in 1958, 1959 and 1960 to determine the fall junior enrollment of majors in science and engineering. From this survey we have, for these three years, an intermediate point between freshmen enrollment and senior graduation, and hence can construct a figure to show the trend of this migration in student majors (Figure 5). In science, mathematics, and engineering we find that about 80 percent of the junior year students, as measured in the fall of the junior year, are expected to graduate in the spring of the senior year, about a year and a half later. The 20 percent mortality represents some failures, some withdrawals and some transfers to nonscience majors. As can be seen in Figure 5, the major portion of the transfer, and withdrawals has taken place by the time the average student reaches the fall of his junior year of college.

In round numbers, we might indicate that from each 1,000 members of the 18 year old age group, about 750 to 800 will graduate from high school; 400 of these high school graduates will start to college; and 200 of this group of college students will graduate from college. Of the 400 who start to college, about 120 as freshmen will indicate that they expect to be scientists or engineers. By the start of the junior year in college, those seeking a two year degree (junior college technician training) will have withdrawn. Many of the withdrawals due to lack of interest or ability will also have taken place. Also most of those who are to transfer from science to nonscience majors will have made this change. The portion of the original 1,000 of the age group who reach the junior year in college is about 250, of whom about 50 are majors in science or engineering. This number will drop to about 40 by the end of the senior year, which will be about 4 percent of the age group graduating in science and engineering. Of the original 1,000 in the age group, approximately 200 will graduate from college and about 40 of these will be majors in science and engineering.

In the next decade, the percentage of the age group starting to college may rise from the present 40 percent to about 50 percent. We would expect a slightly smaller proportional increase in the percentage of the age group studying science and engineering, an increase from the present 6.6 percent to about 7.5 percent, and the percent of those graduating in science and engineering will show an even smaller proportional increase, from about 4 percent today to about 4.5 percent. The reason for the expected smaller increase in the percent of the age group graduating in science and engineering (about a 10 percent increase induced by a 25 percent increase in the proportion of the age group starting to college) is that most of those with the ability and desire to be scientists or engineers are included in the 40 percent of the age group who now go to college, and the increase to 50 percent of the age group going to college does not produce an equivalent increase in the number of science and engineering graduates.

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[19] *Demand for Engineers, Physical Scientists and Technicians—1964*, Engineering Manpower Commission, 1964.

[20] Wayne E. Tolliver, "Bachelor's Degrees in Science and Mathematics," *J. Engineering Education*, 53, 162 (1962).

The future growth trend in science and engineering, as well as in the medical areas, is probably best demonstrated by plotting the present and predicted numbers in terms of the percent of the age group involved. The necessity for such a procedure is due to the marked variations in the age group in the past and future years, as indicated in Figure 1–A. There is evidence (Figure 6) of a reduction in the rate of growth in the predicted growth in the next decade which would imply an approach to a ceiling or limiting factor. In Figure 6, it is necessary to approximate the predicted values for 1968 and 1969 when there is a 70 percent increase in the age group in a single year, although the effect will be distributed over more than one year. There is some indication in this figure that science, engineering, and psychology together are approaching a ceiling of about 5.5 percent of the age group and that science and engineering alone may approach a ceiling of about 5 percent of the age group.

Comparing the production of M.D.'s and Ph.D.'s, when both are recorded as a function of the age group (Figure 7), indicates that the rate of growth in the future for these two areas is in opposite directions. The Ph.D. degrees are obviously on a steady increase with no evidence of a ceiling in the next decade, whereas the M.D. degrees show a corresponding decline in the proportion of the age group, and this decline shows no sign of leveling off in the next decade.

By 1975 we may expect an annual addition to the labor force of:

(a) 9,000 M.D.'s, of whom 1,500 will be foreign trained. (These will include about 1,000 U.S. citizens.)

(b) 25,000 Ph.D.'s of whom about 3,000 will be in the biological sciences and 1,100 will be in psychology.

(c) 800,000 B.S. degree recipients, of whom 30,000 will be in the physical sciences, 40,000 in the biological sciences and 20,000 in psychology.

This annual supply to the labor force in 1975 represents about twice the present annual supply in the various science levels and areas indicated.

Summary

In general, it would be expected that the studies from the National Institute of Mental Health, the U.S. Public Health, and others on medical manpower, and especially mental health manpower, have been studied and reviewed by the study group. It would also be expected that such studies as the Bureau of Labor Statistics on "Occupational Mobility of Scientists" has been reviewed to assess the effect of an area, such as California on the movement of scientists.

The above publications, however, do not cover in sufficient detail the effects of sudden population changes in the college-age group, the foreign training of U.S. citizens, or the impact on our youth of limited access to a medical career as compared with the open and encouraging invitation to qualified students to do advanced work in the sciences. It would appear that the planning for medical training has taken essentially no note of the abrupt rise of nearly 70 percent in the college-age youth in a single decade, and have planned no corresponding increase in medical opportunities. This is a crisis, which, if not properly met, may leave an impression for many years to come on the supporters of science in this nation. If this crisis is properly met, we may have sufficient personnel to handle the proposed expansion in mental health research and treatment.

Alternative to expanded medical schools, which are inevitable in the future, but as a means of effectively handling the immediate crisis, the following suggestions are made:

(a) Creation of a direct training course for the doctor of psychiatry, or doctor of medicine in psychiatry, including essential parts of an M.D. and psychiatric training, and omitting or condensing other portions of the standard M.D. training.

(b) Provision of specialized training in psychiatry to Ph.D. holders in clinical psychology to provide them with reasonable training to effectively direct and treat mental health research and clinical cases.

(c) Subsidies to U.S. students, and to foreign universities if necessary, to enable them to study medicine and psychiatry abroad to increase the number of trained specialists.

(d) Research fellowships and subsidies to students on the M.S. and Ph.D. levels in areas of interest and concern to mental health. Particular attention to workers in mental health clinical and research areas so as to permit study for advanced degrees and training.

In the long-range future, it must be recognized that, in some areas, there will be ceilings on available personnel with ability. There is no evidence, however, that we are pressing on the ceilings of ability to effectively handle additional personnel in our advanced educational programs.

There may be some reasonable criticism for our acceptance as immigrants to this country, of an annual number of from 600 to 700 foreign-trained M.D.'s of foreign nationality, but only if this migration results in a deprivation of the original country of needed personnel or medical services. In fact, however, many of these M.D.'s of foreign nationality are here in this country on student visas for special training, internship, residents or research, and ultimately expect to return to their own countries. There are also some 1,100 faculty members of foreign medical schools who are in the U.S. to take special training and also expect to return to their own countries. Equally important, from the standpoint of balancing the "brain drain" are the more than 1,100 foreign students who are currently enrolled in our limited access medical schools, and, as such, are displacing qualified American students, many of whom go abroad where their enrollment does not produce a corresponding deprivation of opportunity of local candidates.

There is little doubt but that the basic research in mental health, as well as in other areas of medicine, will become increasingly directed and planned by those who have advanced training in the sciences, and that the areas of physics, chemistry, mathematics (the physical sciences), as well as the life sciences, will play a major role in this research program. The immediate future supply in these areas appears to be reasonably certain due to the major increase in the college age group which will take place in the next decade.

The supply of technicians, nurses, and aides will also see a marked improvement. Much of this improvement will be the result of general education programs, including high school and junior college programs. While a recent study on psychiatric aides in mental institutions would indicate that half of the aides, on the national average, had not completed high school, the study also indicated that California led the nation with some 67 percent of these aides having completed high school; and some 20 percent had a junior college background. There is still room for improvement, even though California is well started in the right direction.

It may be well to consider, in conclusion, that mental health, like space science and oceanography, is not a specialty which requires a limited and specific training, but rather requires many experts in a variety of subjects.

No one subject dominates the program, and group or team study and research would appear to be the proper approach. As such, mental health programs must draw from the general pool of scientists and medical experts in accordance with indicated needs. Support of the training of scientists and medical workers in many areas may in turn be the means of supporting mental health manpower.

Fig. I-A POPULATION OF UNITED STATES BY SELECTED AGE GROUPS

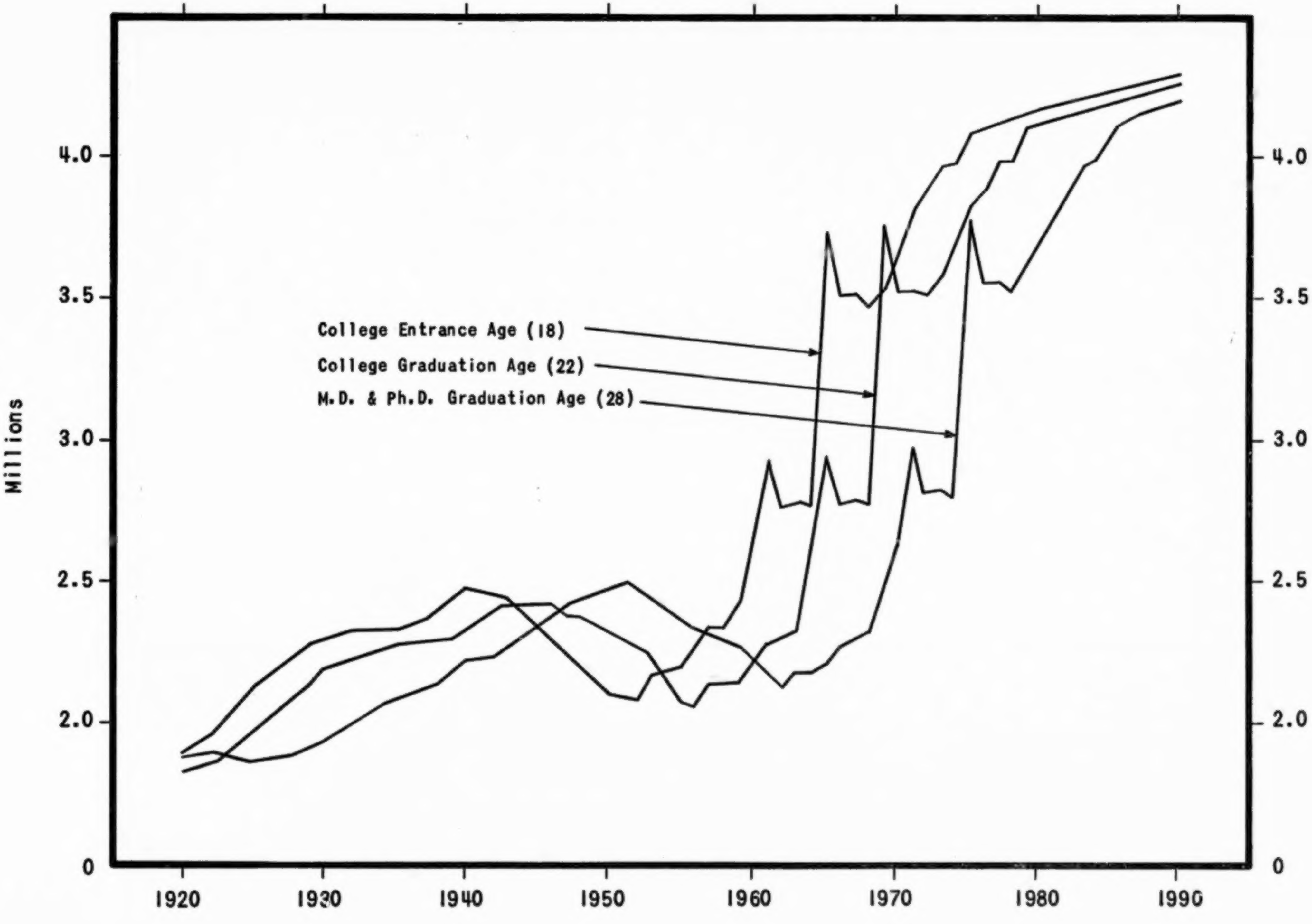


Fig. I-B GRAPHICAL INDICATION OF TREND IN COLLEGE AGE POPULATION

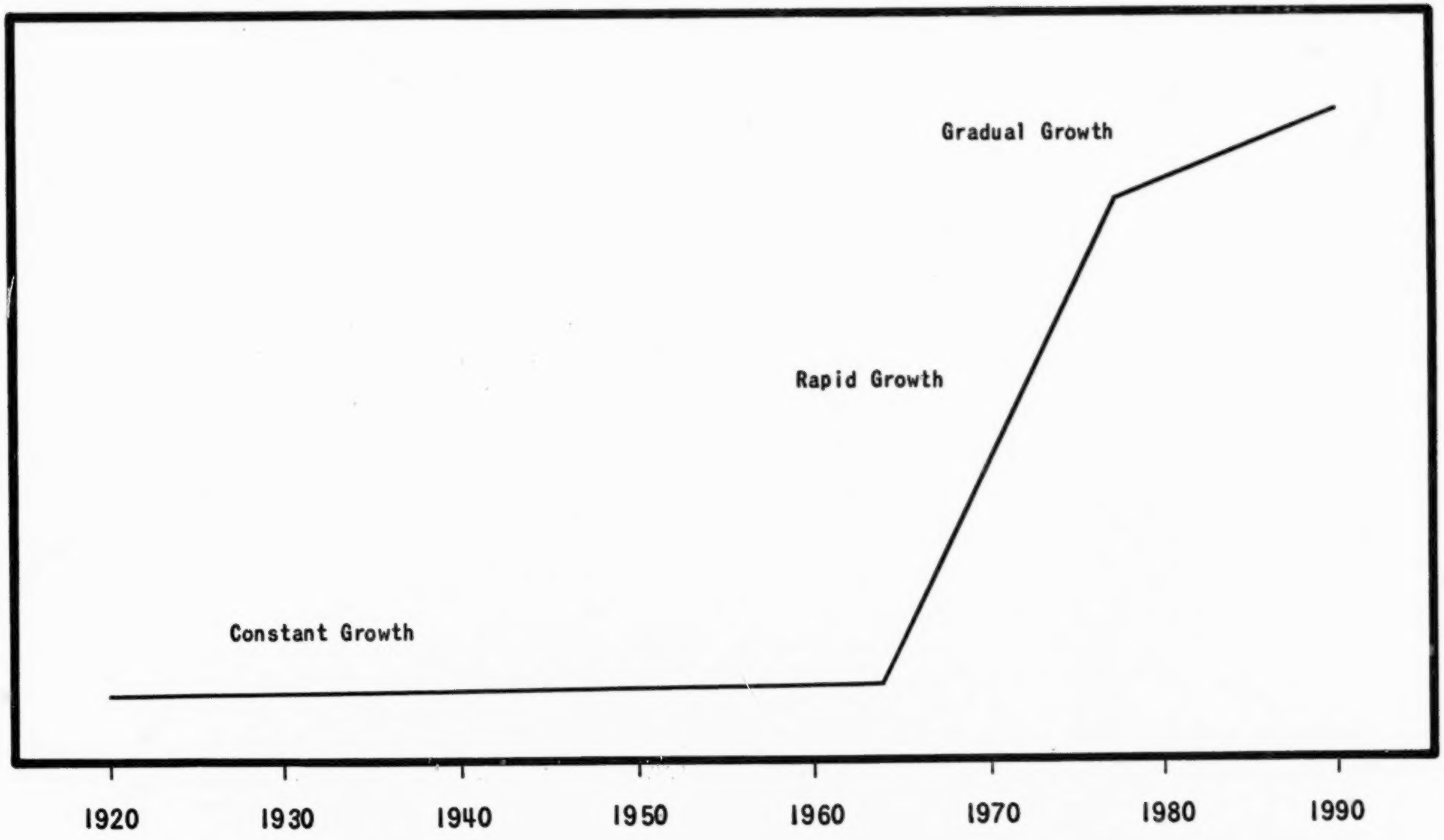


Fig. 2 COLLEGE AGE POPULATION AND ANNUAL NUMBER OF GRADUATES

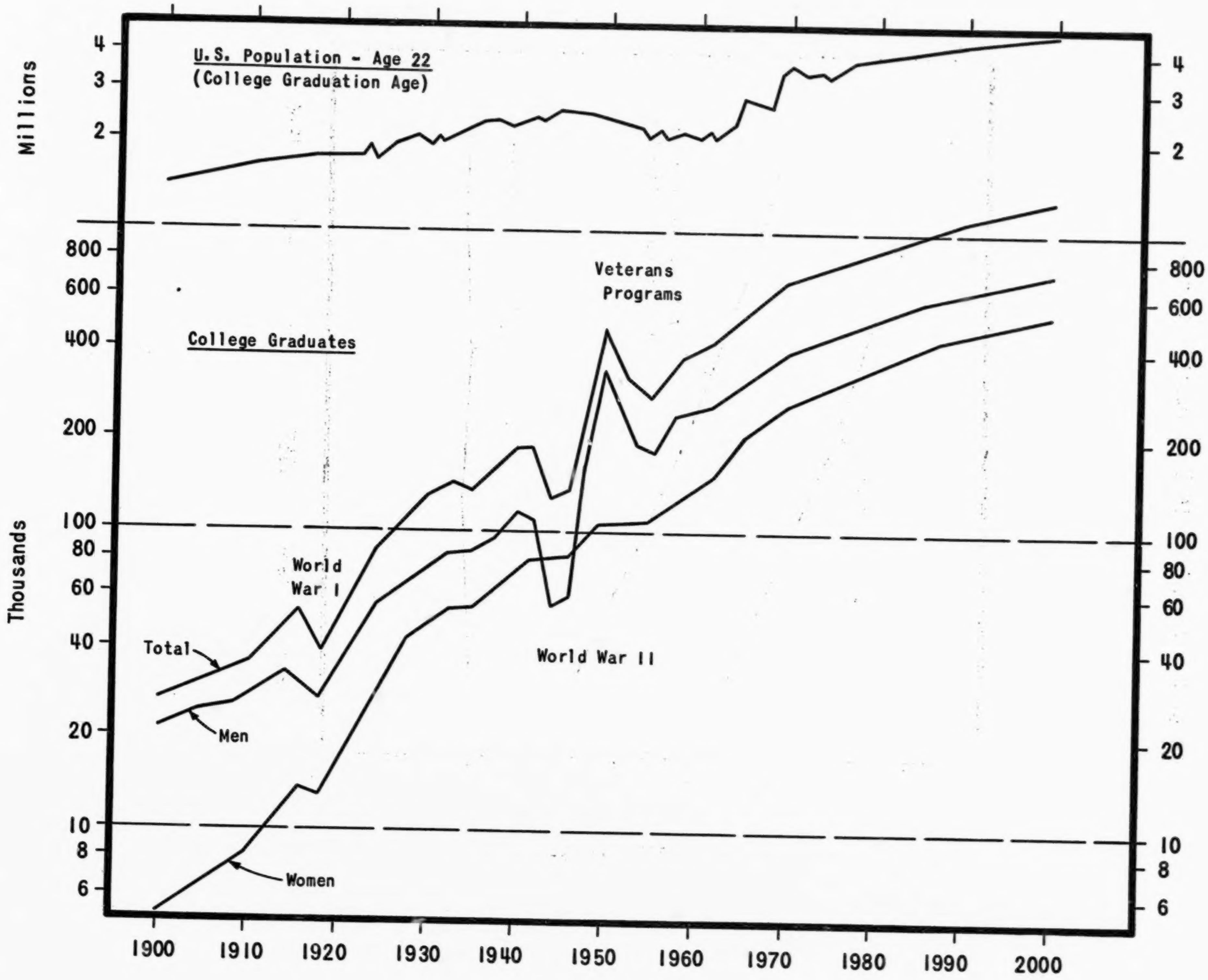


Fig. 3 ATTRITION IN U.S. MEDICAL SCHOOLS

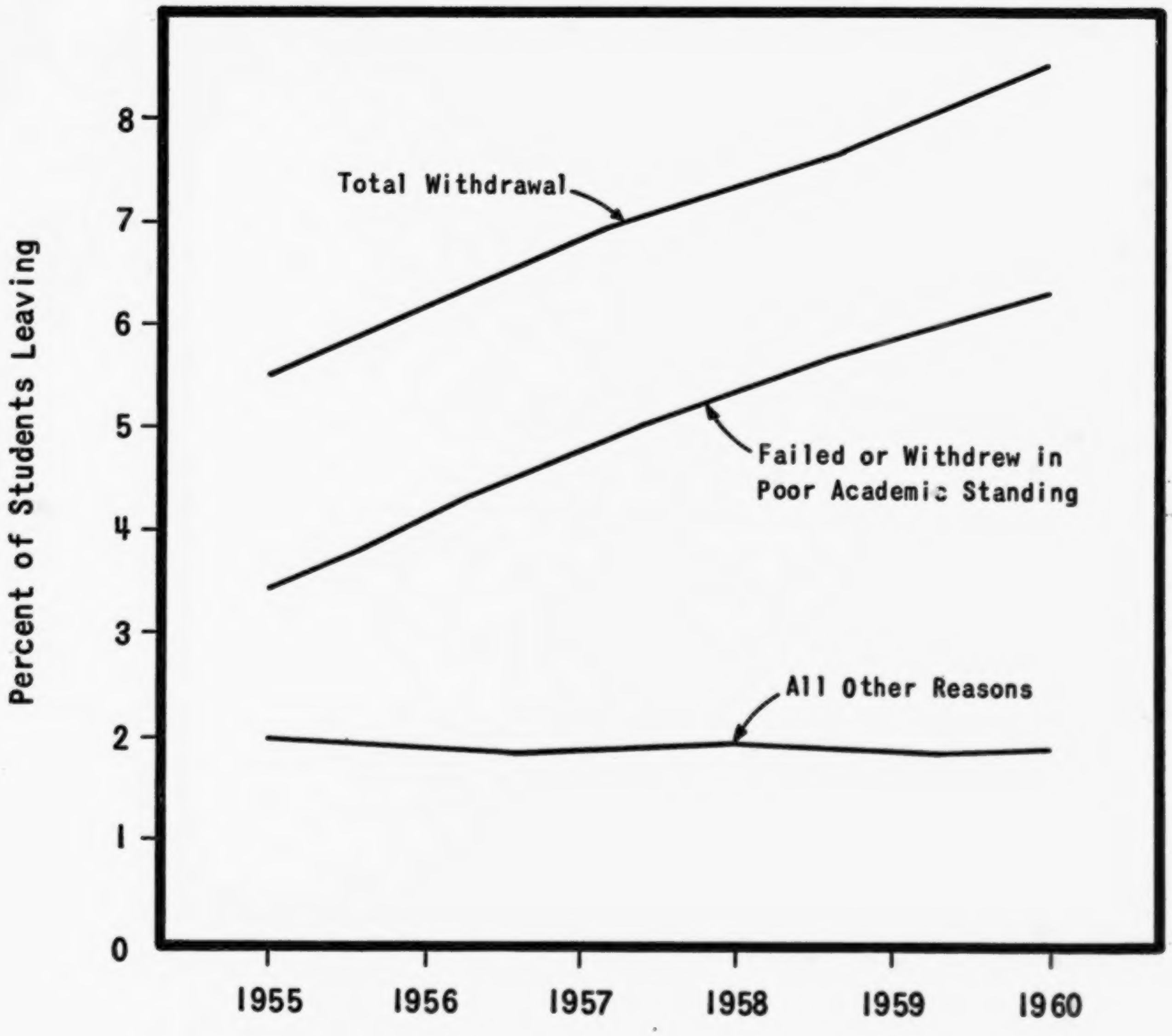


Fig. 4 COMPARATIVE TREND IN THE PRODUCTION OF M.D.'S AND PH.D.'S

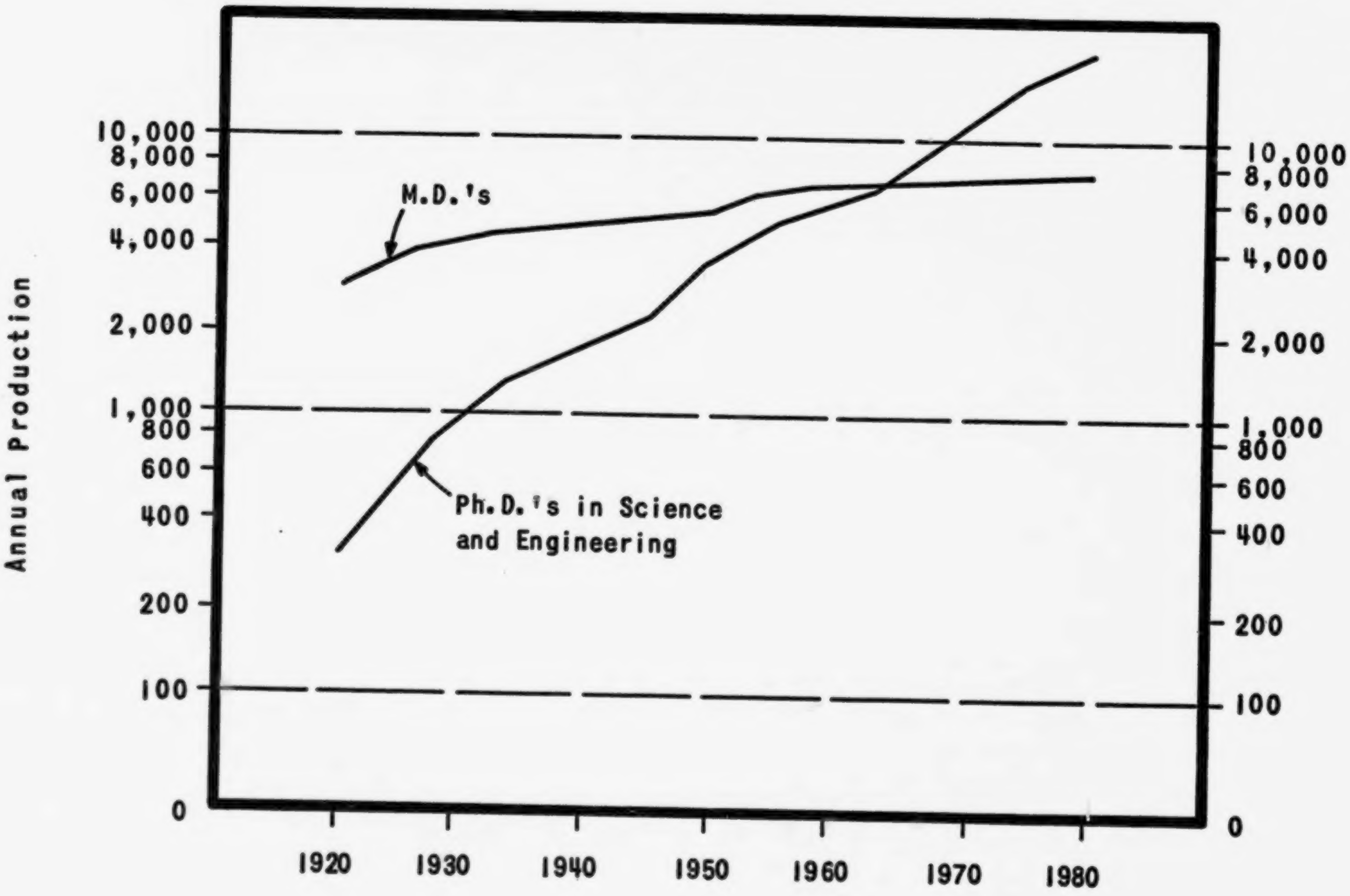


Fig. 5 FLOW PATTERN FOR COLLEGE STUDENTS

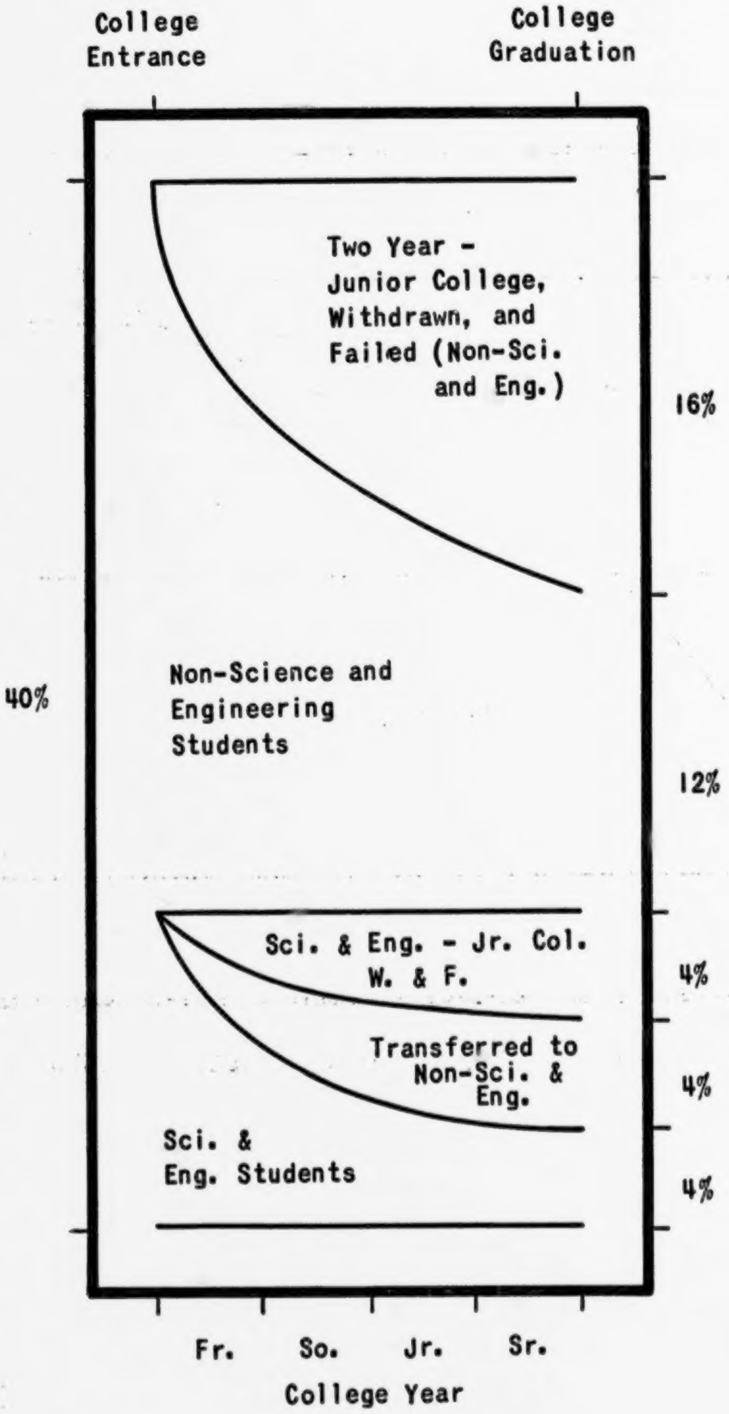
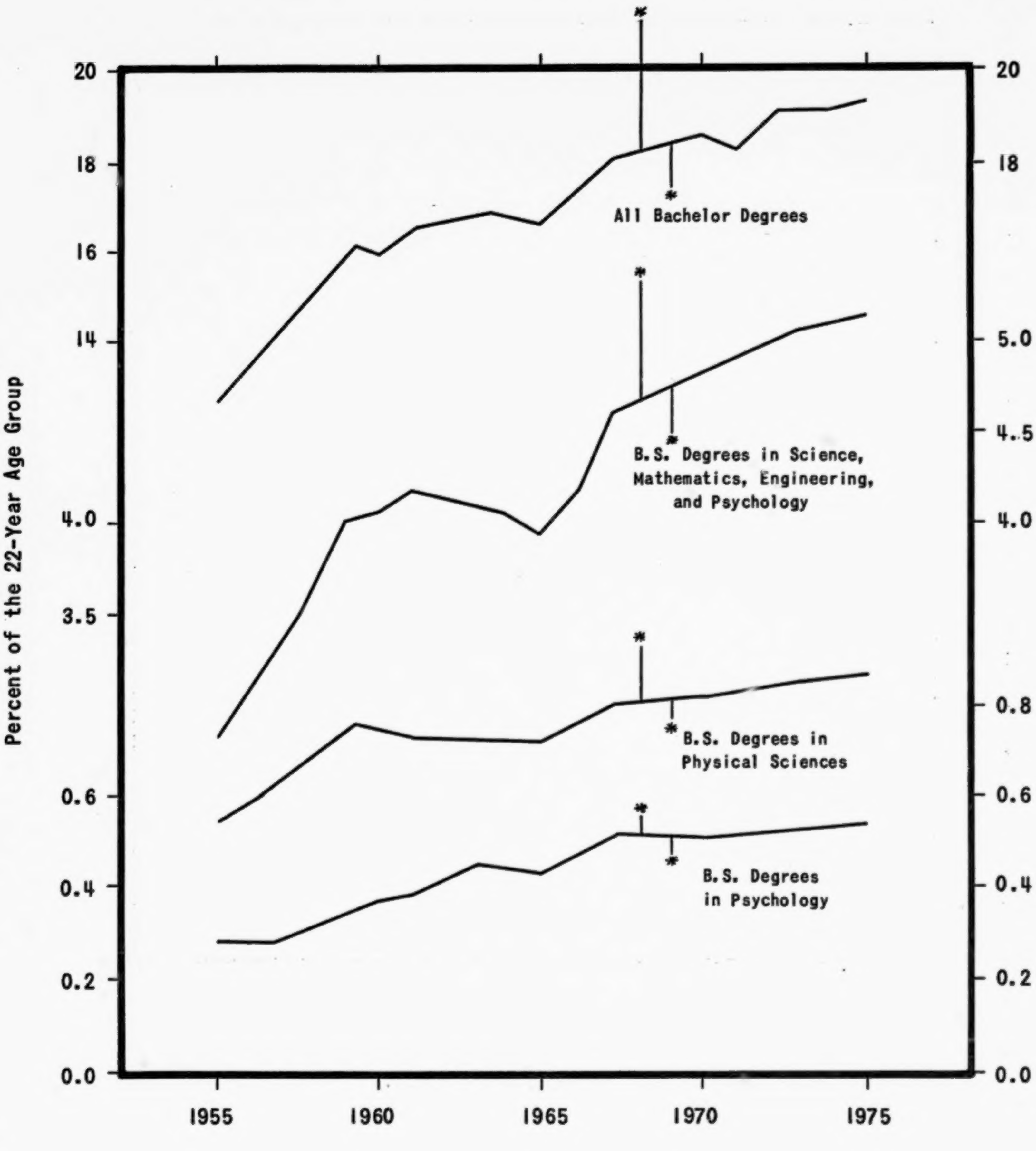
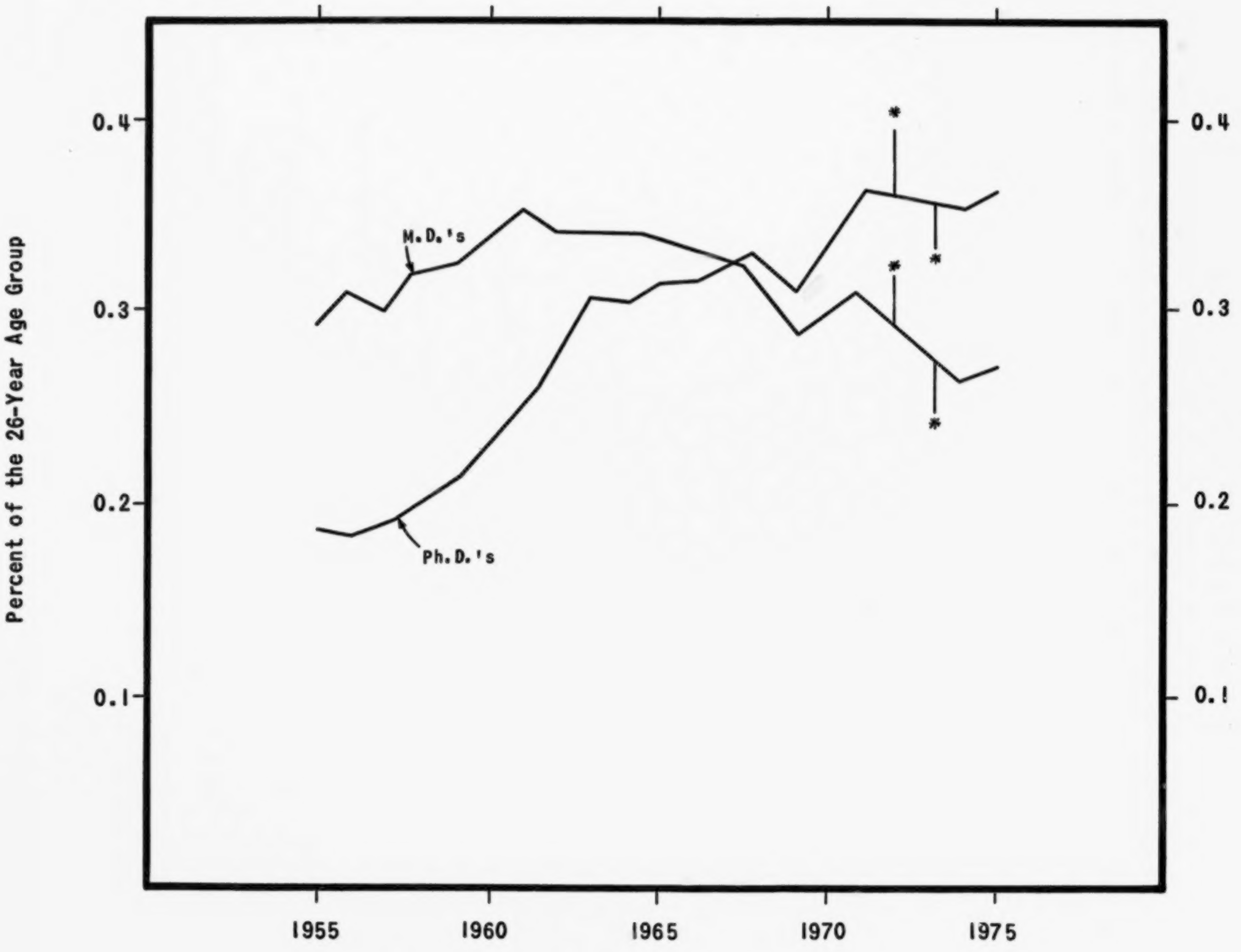

College Entrance
College Graduation
Two Year - Junior College, Withdrawn, and Failed (Non-Sci. and Eng.)
16%
Non-Science and Engineering Students
40%
12%
Sci. & Eng. - Jr. Col. W. & F.
4%
Transferred to Non-Sci. & Eng.
4%
Sci. & Eng. Students
4%
Fr.
So.
Jr.
Sr.
College Year

Fig. 6 BACHELOR DEGREES RECEIVED AND PREDICTED



* *The values for 1968 and 1969 have been indicated by (*) values and have been averaged out since in this period the age group has a 70% increase.*

Fig. 7 RECENT AND PROJECTED DEGREES IN SCIENCE, MATHEMATICS, ENGINEERING, AND PSYCHOLOGY



* *As in Fig. 6, the data for two years are not significant due to a 70% increase in the size of the age group in a single year.*

Mental Health Manpower Research

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I. Introduction

It is commonly stated, verbally and in writing, that a general mental health manpower shortage exists. As a consequence, proponents of this assumption believe that it is not necessary to conduct more research on this problem, or to reaffirm its existence; rather it is necessary to move ahead and "do something" about it. This "something" usually involves programs or recommendations for intensified recruiting, improving utilization of present staffs, the teaching of different specialty subjects in a different way, shortening the period of training, and in some way encouraging more students to stay in high school, graduate from college, and take advanced degrees. Other suggestions for "doing something" about the shortage range from the retraining and employment of older people, to attracting professionally trained people back into the labor force, employing more women, training more persons from minority groups, and various other recommendations.[1]

The contention of this paper is that it is not sufficient merely to recognize the existence of an assumed shortage. It may very well be that a shortage of manpower in a particular discipline, field of activity, work setting, or geographical area is more apparent than real. A recent report, for example, pointed out that there is no shortage of applicants for the job of psychiatric aide in state and county hospitals, as was previously thought. If a shortage of aides does exist in hospitals, it can often be attributed to budgetary restrictions rather than to a lack of qualified candidates for these positions.[2]

Personnel shortages may be measured in relation to various organizational and technical models. For an existing model, a shortage may be apparent; for another hypothetical model there could even be a surplus of certain types of manpower. A shortage of professional mental health workers may exist in one geographical area but not in another; there may be a shortage of psychiatrists in State hospitals but not in private offices for patients of affluence. Research and studies are necessary to point out the dimensions of a shortage, both in terms of quality and quantity. Research can also assist in developing the models and the staffing requirements.

Once the dimensions of a shortage are known, further research is needed to discover what types of programs are most effective, efficient and economical to overcome or alleviate shortages and solve other manpower problems. One must be able to decide which activities should be immediately implemented as palliatives, and which should be considered long-term remedial measures.

Without sufficient research, programs for solving manpower problems may be misdirected. If, for example, it is assumed that manpower is an economic commodity that follows simple principles of economic determinism, an obvious solution to major manpower problems would be to increase economic benefits. We know, however, that this type of unilateral solution does not solve all manpower problems, especially among professional workers who respond to a complex of motivations, not merely economic.[3]

The purposes of this article is to review briefly some conceptual considerations involved in the performance of manpower research, to cite some problems and examples of research methodology, and to describe some needed mental health manpower research areas. Some data on mental health manpower for the State of California are presented in the appendix, a byproduct of an NIMH mental health manpower research project.

It is hoped that the article will generate an increased interest in manpower research and will provide information which can be used for general manpower research activities directed toward reducing the magnitude of the manpower shortage.

II. Conceptual Considerations in Manpower Research

A. Evolution and Need for Manpower Theory

Manpower research requires some knowledge of manpower theory. However, manpower theory at present is a rather nebulous grouping of conceptual considerations. Furthermore, few attempts, at least to the author's knowledge, have been made to systematically conceptualize them.

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[1] See, for example, Albee, G. W., "The Manpower Crisis in Mental Health," *American Journal of Public Health, 50,* December 1960; Loudon, H. H., "Our Manpower Problem—Implications for Guidance and Education," *American School Board Journal,* May 1959; Joint Committee on Nursing in National Security, "Mobilization of Nurses for National Security," 51, No. 2, February 1951.

[2] National Institute of Mental Health, *Highlights from Survey of Psychiatric Aides,* PHS Publication No. 1151, April 1964; National Institute of Mental Health, *The Psychiatric Aide in State Mental Hospitals,* PHS Publication No. 1286, March 1965.

[3] See Ginsberg, Eli, "The Uses of Manpower Theory" (paper presented at the American Sociological Association annual meeting, August 31, 1962, Washington, D.C.).

Manpower theory is explained, understood and interpreted in different ways by different people. One author explains manpower theory as a variant of social theory.[4] In his concept, manpower theory is based on variables that are constantly changing and is, in this sense, subject to considerations similar to those found in social and cultural change. He states that manpower theory is deeply involved in and related to demographic phenomena and economic theory, and that sound manpower theory is based on the ability to predict future social, demographic, and economic phenomena.

Another interpretation of manpower theory involves an adequate supply of workers (i.e., enough to satisfy the demand) for a given society at any given time. This in turn involves training through education from the beginning of early school years to the completion of graduate school for professional workers. Elaborate and expensive systems have been planned and implemented for educating human resources to satisfy our manpower demands. At least one exponent contends that we are only partially successful in this endeavor, especially with professional workers and mental health personnel, since relatively few high-caliber students choose to stay through the requisite training period. This, he states, is because our society does not place sufficient value on "education" and "professionalization" of manpower.[5]

A comprehensive manpower theory may be defined as a systematization of tested hypotheses relating to the work and occupations of human resources. It provides a systematic framework, defines limits and boundaries, and assists in describing various manpower models.

Manpower theory must necessarily take into account a number of general concepts. These include, in random order, recruitment, supply-demand, attrition, social, cultural and technological change, utilization, inflow-outflow, human values about work, human resources, economic incentives, education, unemployment, underemployment, work, labor market, and others.

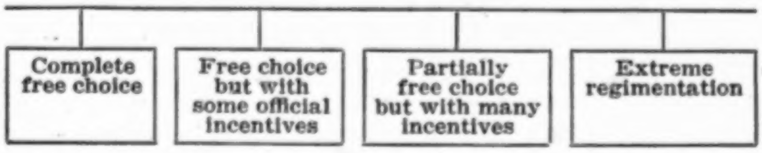
Throughout history, manpower theory and practices in manpower utilization have taken many configurations. In some societies the supply of workers has been controlled by means of such techniques as caste, slavery, indenture, and serfdom. In some cases human resources have been considered equivalent to physical resources.

Even at the present time the conceptual aspects of manpower theory are not applied uniformly in diverse societies and countries. In the United States, the nearly complete freedom of the individual to determine his occupation is highly valued. It is felt that public and private policies which facilitate free and prudent choice by individuals of where they work, and what type of work they will do, produce the most efficient distribution and utilization of manpower.[6] It is further considered that in both physical and substantive areas where manpower is insufficient, certain incentives such as grants for education, and utilizing public funds, should be offered in order to channel manpower into needed areas. However, free choice by any given individual remains. Undoubtedly, the concept of free choice as an official policy within the framework of present manpower theory will remain unless it proves ineffective, in time of national emergency, as experienced during World War II.

Manpower theory includes other models that are employed by other countries. The well-known "ant" model, which is characterized by extreme regimentation, used by present-day Communist China, is a variant model of manpower deployment and utilization. Another example of manpower regimentation is the strict mobilization experienced during wartime. The U.S.S.R. employs a planned training program and distribution of qualified personnel even though, in theory, each citizen can choose his profession and his type of training. The whole system of planned distribution of specialists is based on "a harmony of interests of the society with those of a citizen."[7]

The aspect of manpower theory involving utilization may be thought of in terms of a continuum in which, at one pole, a given society maintains complete free choice of occupation with no incentives whatsoever to influence this choice. At the opposite pole is a situation in which there is complete regimentation of all human resources as they relate to work, occupation, and employment. Manpower policy regarding utilization appears in different places on the continuum. (See figure.)

Official Manpower Policy Continuum


Complete free choice
Free choice but with some official incentives
Partially free choice but with many incentives
Extreme regimentation

A final aspect of manpower theory (by no means making a complete inventory) has to do with the relationship between intelligence and manpower utilization. A recent research finding indicates that a comparatively high percentage of intelligent students in the United States terminate their education upon graduation from high school. Another research project indicates that our intellectual resources are not being used or exploited to as full an extent as might be possible.[8]

Manpower theory should dictate policy formulation, which in turn requires planning and determination of objectives. Unfortunately, theory is not well developed, and ineffective policies sometimes result which must then be corrected through trial and error. This condition is lamentable but unavoidable, since the expedient formulation of policy cannot wait for the advanced development of a theoretical framework.

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[4] *Ibid.*

[5] Albee, George, *Mental Health Manpower Trends*, Monograph Series No. 3, Joint Commission on Mental Illness and Health, New York Basic Books, 1959.

[6] U.S. Department of Labor, "Manpower Report of the President and a Report on Manpower Requirements, Resources, Utilization, and Training," March 1963.

[7] Bzhilyansky, Y. A., "Training and Distribution of Qualified Personnel in the USSR," Ministry of Higher and Specialized Secondary Education of the U.S.S.R. (paper presented to World Population Conference, Belgrade, 1965).

[8] Minor, John B., *Intelligence in the United States*, Springer Publishing Co., Inc., 1957.

The preceding discussion has not attempted to treat manpower theory systematically. However. in view of its importance in policy formulation, planning, and evaluative research, there is an urgent need to conceptualize manpower theory systematically. There is always a tendency to fragmentize ideas, and it is difficult to view a complicated issue such as manpower in its total perspective. Sometimes fragmentizing is deliberate, because an overall viewpoint would distract from the importance of our own segment—in this case mental health manpower. This must be guarded against.

B. Manpower Policy, Planning, and Research

The development of manpower policy is a logical consequence of the formulation of manpower theory. For example, manpower theory can indicate diverse methods for utilization and the relative effectiveness of each method. Theory assists in the design of manpower objectives. Policy concerning utilization is formulated in relation to the objectives that are desired. In a time of national crisis, such as war or economic depression, the official policy may involve regimentation of manpower resources, in a time of relative economic and social stability the official policy may be one of free choice with moderate incentives to channel manpower into areas of acute shortage. If shortages become more acute, official policy may take the form of greater influences to channel more manpower into scarce areas. An example is the development of incentives to influence bright high school students to enter college. Manpower theory dictates that sufficient supplies of professional persons must be maintained in order to provide necessary services. Policy is established to support institutions of higher education so that this condition may be implemented.

Theory assists in establishing policy and dictates the need for planning. The following are illustrations of overall manpower policy which are often found in the literature:

1. Future manpower supplies must be made available and appropriate planning must be performed to achieve this objective.
2. Special incentives, in one form or another, must be provided to encourage persons to enter certain subpools of manpower where shortages exist.
3. Educational institutions must be supported and enlarged in order to supply the optimum number of trained persons in the manpower pool.
4. Maximum employment, production, and purchasing power should be promoted.
5. Optimum utilization of personnel must be encouraged and implemented.
6. A larger proportion of manpower in minority and underprivileged groups must be brought into the labor force.
7. The relationship between social change and manpower must be recognized, and retraining provided.
8. Data and manpower information must be provided. Studies must be made and research performed on all aspects of manpower.
9. The physically and mentally handicapped must be encouraged to enter the labor force.
10. Manpower as a basic resource determines the kind of nation we become, and the individuals that make up this pool shall have free choice as to where and at what they shall work.

Manpower planning, like manpower theory, is un- and social development of any country, and just as research assists in the development of theory from which policy is formulated, so research is also a valuable aid to planning.

Elements of manpower planning were seen during the economic depression of the 1930's when aid to the unemployed was provided through federal and state work programs. Manpower planning has been evident in the last two World Wars, and more systematic long-term planning began shortly after World War II with the advent of an intensified program for data collection and research.

Manpower planning, like manpower theory, is understood, conceptualized, explained and implemented by different people in different ways. Educators and state and federal training grant administrators often view it as educational planning. Employment counselors see planning as a labor force concept of which employment and unemployment are the principal dimensions. Many economists speak of it in terms of the general administration of human resources, and are concerned with the labor force and its relation to the economic development of the nation.[9] Still others view manpower planning in terms of relieving a shortage in a given discipline and supplying the necessary workers for future programs. Overall manpower planning means the total process by which proper development and wise utilization of a nation's human resources is achieved in attaining the objective to which the nation has committed itself.[10]

More manpower planning is needed, especially in the field of mental health. Once planning is started, many problems arise. These problems involve efficient utilization, high turnover among some disciplines and types of workers, scarcity of workers, effective recruitment procedures, which training should be subsidized, maldistribution of personnel both organizationally and geographically, as well as a host of other problems. Manpower research assists in solving these problems and points to dimensions in effective planning.

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[9] Department of State, Agency for International Development, "Proceedings of Seminar on Problems of Manpower Planning, Development, Utilization, Distribution and Administration," June 18 to September 19, 1962; also June 3 to September 6, 1963.

[10] For an excellent statement of concepts of manpower planning, see: Hilliard, John F., "Essentials of Manpower Planning in Economic Development," *International Development Review, IV*, No. 1, March 1962. See also: Harbison, Frederick, "Toward the Development of a Comprehensive Manpower Policy." (Appended paper in "Toward Better Utilization of Scientific and Engineering Talent; A Program for Action," National Academy of Sciences Committee on Utilization of Scientific and Engineering Manpower, Washington, D.C.)

C. Orientation for Manpower Research

Those interested in performing mental health manpower research must acquaint themselves with concepts that are essential in research methodology. It is imperative that a researcher recognize that social organization, especially in highly industrialized countries, is constantly changing. This means that present day models for the prevention and treatment of mental illness and maintenance of mental health are not static. Since manpower models will change with changing mental health administrative models, a researcher in mental health manpower must attempt to predict the number and characteristics of future manpower units according to diverse models.

Because the present and future manpower pool depends to a great extent on the characteristics of the population, demographic techniques must be well understood. It is important to recognize the close relationship between economic phenomena and manpower of all types. Care, however, should be taken to avoid the concept of man as an "economic animal" which adheres strictly to the theoretical structure of the supply-demand dichotomy.

The complexity of many interrelationships among sociological institutions in the area of manpower should be duly recognized in manpower research. Proposals for single-action programs for solving manpower problems can oversimplify the situation and prejudice scientific inquiry. An example of such a single-action program is the proposal to raise the economic benefits of psychiatric aides, psychologists, and other professional workers in order to solve all mental health manpower problems.

Research methodology in mental health manpower must avoid pitfalls which apply to any scientific research. One pitfall which is too often found in scientific research is an actual or implied generalization about a total population, based on observations from a small nonrepresentative segment of that population. Another is a heavy reliance on data which have not been collected according to accepted professional standards. Still another is ambiguous or non-mutually exclusive classifications of mental health manpower characteristics and establishments.

III. Some Problems and Examples of Mental Health Manpower Research Methodology

A. Problems in Conceptualizing

Some of the most difficult problems related to manpower research are in the conceptualization of the appropriate methodology for conducting the research. This conceptualization, however, is a most important aspect.

The computation of future needs for mental health manpower may be cited as one example among many. Conceptually, future needs depend on many factors—future population size, age distribution and other population characteristics, future facility structure, organization and priorities including gradual changes in emphasis from custodial to preventive mental health programs. Future needs will vary by discipline and the actual future numbers needed should take into account a present deficit that must be erased at a given future time. Moreover, the availability of services itself creates a demand that must be predicted.[11]

One common method of predicting future demand or need is to relate the number of units to future estimated population projections, i.e., maintain a constant ratio of units to population. Other methods employ an arbitrary ratio of manpower units to services, or the use of the ratio between the number of units and prevalence of illness. Each of these techniques provides only a general measure of demand and has definite limitations for smaller areas and specializations.[12]

B. Definition and Classification

Another problem in mental health manpower research is the determination of definitions and classifications of manpower and establishment types. The problem usually centers around whether to include or exclude certain subgroups within a general generic loosely defined population; how to define a given discipline or establishment so that reporting uniformity will assure data reliability. The problem usually arises from the lack of uniformity in definition and classification among constituent areas which are desired to be included in the research or study.

Manpower personnel engaged in mental health programs in the widest sense are not always easily defined. In some cases, physicians working in a mental health setting and giving care to mental patients think of themselves as psychiatrists but have never had the prescribed residency training in psychiatry.[13] Should these individuals be counted in the manpower pool as psychiatrists? Some psychologists have never taken graduate work but are so classified by the mental health establishment for which they work. Many nurses labeled psychiatric nurses have never taken special training in psychiatric nursing. Personnel performing the duties usually ascribed to psychiatric aides are designated by many different names, such as attendants or practical nurses. One solution to the problem of who should be included in a mental health manpower universe is to include the widest possible range, obtain characteristics such as education, special training, membership in a professional organization, etc., and then separate out those who do not have the characteristics according to a given arbitrary definition or special research purpose.

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[11] For a description of an attempt at conceptualization for estimating future manpower needs, see Cavanaugh, J. A., "Future Health Manpower Needs in Latin America," *Public Health Reports*, 79, No. 10, October 1964.

[12] "Health Manpower and Medical Education in Latin America," The Milbank Memorial Fund Quarterly, (Report of a Round Table Conference), XLII No. 1, January 1964.

[13] For example, in a recent NIMH Survey of Professional Personnel Employed in Mental Health Establishments which included 7,500 psychiatrists, approximately 10 percent reported less than one year of residency training.

Mental health establishment determination and classification poses another problem. Here, again, the problem centers around what to include or exclude. Including only manpower working in a narrowly defined class of mental health establishments will underestimate the number of personnel available for mental health programs. The classification of types of mental health establishments poses still another problem because of the many different types which in some cases confine treatment to only certain age groups, and others to only certain types of mental illness. The problem is most acute in classifying outpatient clinics because of the great diversity of types. Once knowledge of the organizational structure and some selected characteristics are obtained, classification may be made according to selected predetermined dimensions. A small residual class may be established for those clinics not falling into other subclasses.

C. Other Problems in Research Methodology

The determination of the type of research to be performed often constitutes a problem. In a research program where reliable basic data are not available, macroscopic-type surveys must be performed in order to have estimates of characteristics and parameters of the manpower universe. Subsequent microscopic-type research on subuniverses will have more meaning and can be more adequately interpreted if characteristics of the total universe are known.

As in any type of research program in a substantive area, planning must be performed. Since personnel and funds are usually not available for all research desired or needed, priorities for individual projects must be established. The priorities ordinarily depend on immediate administrative needs for overall program direction. But caution should be taken not to orient a research program solely to the satisfying of immediate administrative-needs.

Another problem involves the detail needed for answering specific questions that lead to effective planning, prediction and control. Some research or study projects contain more detail than can ever be satisfactorily tabulated and analyzed. Others contain elements which can be seriously questioned, both conceptually and substantively. The more difficult types of research for which to conceptualize and design adequate methodological techniques are research on utilization, evaluation, and estimates of future supply and demand.

There is no substitute for the employment of sophisticated research personnel. Since there are no academic degrees given in the specialty of "manpower research," it is necessary to draw personnel for supervising and conducting manpower research from other substantive disciplines. Usually, the best qualified professionals are those with good background training in research techniques such as hypotheses testing, survey design and methodology, and analysis of data. Persons with training in mathematics and statistics are essential. This class of manpower can be drawn from sociologists, statisticians (both mathematical and analytical), demographers, economists, and industrial and measurement psychologists with a foundation in statistical methodology. Also, public administrators and personnel with survey and statistical training and experience can render valuable assistance in manpower research.

IV. Needed Mental Health Manpower Research Areas

Considerable research, both microscopic and macroscopic, has been performed somewhat unsystematically in the general area of manpower and to a lesser extent on health manpower. However, the needed quantity and quality of mental health manpower research has barely been initiated.[14] Systematic research in this area is badly needed for developing manpower theory and planning, since it is expected that administrative models and techniques for treatment and prevention of mental illness may change quite radically in the future. Manpower estimates and other data will be needed for planning facilities.

For the sake of clarity, needed mental health manpower research areas may be classified as follows:

Manpower pool or account

- Current supply
- Future supply
- Current demand
- Future demand

Development of manpower resources

- Education and training (faculty and teaching requirements)
- Utilization—symbiotic relationships.

Employment conditions

- Mobility, attrition, turnover
- Counseling, guidance, occupational choice
- Recruitment
- Economic-financial
- Organizational-administrative

Each of the above areas may be further classified by type of professional and subprofessional disciplines.

A. Manpower Pool

Supply and Demand. It is almost inconceivable that effective research in manpower can be performed without knowing the amount, characteristics, and trends of the present supply. It is, therefore, imperative that census-survey type manpower studies be performed at the outset and continued at specific intervals.[15]

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[14] For examples of descriptions of emerging research programs see Lockman, Robert F., "Development of a Manpower Research Program for the American Psychiatric Association," American Psychiatric Association, Washington, D.C., January 1965; National Institute of Mental Health, "A Mental Health Manpower Studies Program," Public Health Service Publication No. 1027, United States Department of Health, Education and Welfare, Washington, D.C., March 1963. An inventory of a current research program on overall manpower problems is encapsulated in U.S. Department of Labor, Office of Manpower, Automation and Training, "Manpower and Automation Research," November 1964.

Research which makes use of selected assumptions from any available data on attrition and entry of manpower units into the total pool is needed to predict future supply. In fact, research and study should be performed on the determination of conceptual guidelines and methodology for estimating future supply and making projections.

Research on current and future demand for selected types of personnel must also be performed on assumptions previously determined. It must be understood that different combinations of assumptions, especially for estimates of future demand, will render different results. Sophisticated, detailed research on future supply and demand will provide important data for the formulation of plans for relieving the shortage of mental health workers.

A considerable percentage of psychiatrists (14 percent) and residents (13 percent) in the State of California are either alien or naturalized; about 13 percent of the psychologists are either alien or naturalized. Since this is apparently an important part of the manpower supply, research should be performed to determine the impact of foreign nationals on the mental health manpower picture. In addition, not enough is known about other potential contributors to the total professional and subprofessional pool. These include Negroes, other minority racial groups, and women.

The basic dimension in a manpower shortage implies insufficient numbers of workers in relation to demand (which is defined in some manner). However, raw numbers, i.e., quantity, is but one dimension of the shortage. Another important dimension involves adequate and sufficient preparation, i.e., quality. Research is needed to assess this latter dimension in the manpower shortage.

B. Development of Manpower Resources

Education and Training. There are a number of important areas for research in respect to the relationships among mental health manpower, education, and training. This is an important research area because training and educational facilities furnish the most effective, though traditional, method of adding to the manpower pool, maintaining quality and making up a deficit resulting from attrition.

Although no attempt is made to be all inclusive, the following are important areas for research:

1. A continuing analysis of faculty and students involved in training for mental health;
2. Relationship between costs and training for mental health;[16]
3. Training of untapped pools of professional and subprofessional personnel (these pools include minority groups, women not in the labor force, aged and retired, etc.);
4. Role of the vocational school, junior college, and community college for preemployment training of skilled manpower for mental health;
5. The effectiveness of training of professional workers in relation to mental health objectives (what functions are involved and what skills and knowledge contribute to the effective performance of these functions);
6. Relationship between intelligence, degree of education and professional manpower loss.

Various mental health disciplines themselves have special problems related to education and training. For example, professional technical obsolescene in psychiatry is a serious problem demanding research into how periodic training can be most effective. Another example is in social work in respect to the balance between specialization and generic preparation in training programs.[17]

Utilization. Many experts in manpower have stated that utilization, i.e., more effective utilization of mental health manpower, would be an extremely effective way to assist in overcoming manpower shortages. However, effective utilization has rarely been studied except in very general terms. Research is needed to study the relationship between effective utilization and methods for fulfilling objectives. Utilization models under various conditions need to be developed and evaluated.

Needed also are studies on the ecology of various types of personnel working in mental health settings. An analysis of symbiotic factors in the actual utilization milieu may indicate weaknesses and would assist in the formulation of more efficient administrative models.

C. Employment Conditions

Mobility, Attrition and Turnover. Patterns of mobility—spatial and vertical should be studied. A number of questions need to be answered in order to predict characteristics of mobility under certain specified sets of circumstances. For example, what factors influence the push-pull conditions of mobility for given classes of professional personnel? How can mobility be controlled or directed, if desired? Demographic theory on migration would assist in conceptualizing research in this area.

Closely associated with mobility is attrition, loss to the labor force, and turnover (leaving a particular position for another). Here again, patterns of attrition and turnover need sophisticated study in order to explain these phenomena and predict and control future needs. This applies especially to mental health manpower areas in which women and semiprofessional personnel predominate.

Counseling, Guidance and Occupational Choice. Counseling and guidance services are used extensively for advising and directing students into substantive occupational areas. Considerable funds are expended for these services. However, not enough is known about their effectiveness and how the programs are actually implemented. This is an important area because it is potentially an important mechanism for assisting in the carrying out of general manpower policy.

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[15] Examples of characteristics of professional manpower pool in mental health establishments for California are included in the appendix.

[16] For an attempt to estimate costs for training mental health personnel see, National Institute of Mental Health, "Survey of Funding and Expenditures for Training of Mental Health Personnel, 1960–61," PHS Publication No. 1028, January 1963.

[17] For suggestions on other research areas in education and training as applied to social work, see French, David G., "Needed Research on Social Work Manpower," U.S. Department of Health, Education and Welfare, 1964.

Considerable disagreement exists about factors determining occupational choice at various levels. Much more sophisticated research is needed in order to be able to plan occupational guidance programs. Also in connection with occupational choice, it would be important to know the degree of influence that federal grant programs have on occupational choice and their influence on students to leave one field and enter another.

Recruitment. A number of techniques are being used for recruiting personnel into the health professions. Several states maintain formal programs which are usually implemented by private or semiprivate foundations. The techniques usually involve the dissemination of descriptive materials to student counselors, presentation of lectures and movies, and encouraging class career days.

The State of Kentucky is embarking on an ambitious project for recruiting all types of workers into the mental health area.

Since recruitment techniques offer a convenient mechanism for actually supplying manpower, it is important to know what techniques are most effective. What are appropriate methods for finding talent? Evaluative research is badly needed in this area.

Economic-Financial. Research on this subject involves the cost of training mental health personnel. What will be the future costs for training personnel for community mental health centers? What expenditures must be expected to relieve wholly or in part the shortage of manpower? For staffing different manpower models what training expenditures will be required? These are some of the questions that research must answer.

Organizational - Administrative. Many questions about manpower in the organizational-administrative context remain unanswered. What types and numbers of personnel will be needed in the future for staffing different types of mental health models? What constitutes present staffing patterns in mental health establishments? Under given conditions, what are the most effective staffing patterns? What are the characteristics of present administrators of mental health installations?

The above suggested subjects for needed research are illustrative of the magnitude of the research area in mental health manpower. It is hoped that their brief description will prove to be a catalyst to actual performance since only clear conceptualization and systematic research can provide useful answers to the numerous and vital manpower problems dealing with theory, policy, planning, evaluation, and research itself.

Appendix

Table 1

NUMBER AND PERCENTAGE OF PSYCHIATRISTS AND PSYCHOLOGISTS BY AGE AND SEX MENTAL HEALTH ESTABLISHMENTS, STATE OF CALIFORNIA, 1963[1] [2]

Age	Sex															
	Psychiatrists								Psychologists							
	Total	Percent	Male	Percent	Female	Percent	Unspec.	Percent	Total	Percent	Male	Percent	Female	Percent	Unspec.	Percent
Total	741	100.0	661	100.0	71	100.0	9	100.0	477	99.9	349	100.0	125	100.0	3	99.9
Under 25	0	---------	0	---------	0	---------	0	---------	3	.6	1	.3	2	1.6	0	---------
25–29	4	.5	3	.4	1	1.4	0	---------	36	7.5	24	6.9	12	9.6	0	---------
30–34	83	11.2	78	11.8	5	7.0	0	---------	86	18.0	73	20.9	13	10.4	0	---------
35–39	153	21.3	147	22.2	11	15.5	0	---------	136	28.5	109	31.2	26	20.8	1	33.3
40–44	144	19.4	134	20.3	10	14.1	0	---------	103	21.6	72	20.6	31	24.8	0	---------
45–49	86	11.6	77	11.7	9	12.7	0	---------	49	10.3	37	10.6	11	8.8	1	33.3
50–54	79	10.7	69	10.4	10	14.1	0	---------	25	5.2	18	5.2	7	5.6	0	---------
55–59	80	10.8	68	10.3	12	16.9	0	---------	21	4.4	11	3.1	10	8.0	0	---------
60–64	56	7.6	49	7.4	7	9.9	0	---------	8	1.7	1	.3	7	5.6	0	---------
65 and over	31	4.2	25	3.8	6	8.4	0	---------	7	1.5	1	.3	6	4.8	0	---------
Unspecified	20	2.7	11	1.7	0	---------	9	100.0	3	.6	2	.6	0	---------	1	33.3

[1] Mental health establishments include public and private mental hospitals, outpatient clinics, public and private institutions for mentally retarded.
[2] Figures in tables represent those persons actually reporting. Approximately 3 percent of all personnel in all establishments included in survey did not report.

Table 2

NUMBER AND PERCENTAGE OF SOCIAL WORKERS AND PROFESSIONAL NURSES BY AGE AND SEX, MENTAL HEALTH ESTABLISHMENTS, STATE OF CALIFORNIA, 1963[1,2]

Age	Sex															
	Social workers								Professional nurses							
	Total	Percent	Male	Percent	Female	Percent	Unspec.	Percent	Total	Percent	Male	Percent	Female	Percent	Unspec.	Percent
Total	647	100.1	221	99.9	424	100.1	2	100.0	1,987	99.9	115	99.9	1,855	100.0	17	100.0
Under 25	3	.5	0	----------	3	.7	0	----------	129	6.5	0	----------	129	7.0	0	----------
25-29	62	9.6	23	10.4	39	9.2	0	----------	250	12.6	9	7.8	241	13.0	0	----------
30-34	113	17.5	51	23.1	61	14.4	1	50.0	195	9.8	16	13.9	179	9.7	0	----------
35-39	135	20.9	58	26.2	77	18.2	0	----------	253	12.7	26	22.6	227	12.2	0	----------
40-44	99	15.3	35	15.8	64	15.1	0	----------	260	13.1	17	14.8	243	13.1	0	----------
45-49	87	13.4	23	10.4	64	15.1	0	----------	269	13.5	16	13.9	253	13.6	0	----------
50-54	71	11.0	13	5.9	58	13.8	0	----------	291	14.6	13	11.3	278	15.0	0	----------
55-59	45	6.9	12	5.4	33	7.8	0	----------	207	10.4	12	10.4	195	10.5	0	----------
60-64	25	3.9	4	1.8	21	4.9	0	----------	78	3.9	6	5.2	72	3.9	0	----------
65 and over	4	.6	0	----------	4	.9	0	----------	32	1.6	0	----------	32	1.7	0	----------
Unspecified	3	.5	2	.9	0	----------	1	50.0	23	1.2	0	----------	6	.3	17	100.0

[1] See Table 1.
[2] See Table 1.

Table 3

NUMBER AND PERCENTAGE OF PSYCHIATRISTS, PSYCHOLOGISTS, SOCIAL WORKERS, PROFESSIONAL NURSES BY TOTAL HOURS EMPLOYED PER WEEK MENTAL HEALTH ESTABLISHMENTS, STATE OF CALIFORNIA, 1963[1,2]

Total hours employed	Total	Percent	Psychiatrists		Psychologists		Social workers		Professional nurses	
			Total	Percent	Total	Percent	Total	Percent	Total	Percent
Total	3,852	100.0	741	99.8	477	100.1	647	100.0	1,987	100.1
1-9	206	5.3	150	20.2	40	8.4	9	1.4	7	.3
10-19	126	3.3	60	8.1	29	6.1	19	2.9	18	.9
20-29	195	5.1	64	8.6	42	8.8	50	7.7	39	2.0
30-34	69	1.8	21	2.8	20	4.2	17	2.6	11	.5
35-39	42	1.1	7	.9	18	3.8	16	2.5	1	0.0
40-49	3,073	79.8	370	49.9	310	65.0	522	80.7	1,871	94.2
50 and over	105	2.7	56	7.6	17	3.6	11	1.7	21	1.1
Unspecified	36	.9	13	1.7	1	.2	3	.5	19	1.0

[1] See Table 1.
[2] See Table 1.

Table 4

NUMBER AND PERCENTAGE OF PSYCHIATRISTS, PSYCHOLOGISTS, SOCIAL WORKERS, NURSES BY LEVEL OF EDUCATION, MENTAL HEALTH ESTABLISHMENTS, STATE OF CALIFORNIA, 1963[1,2]

Level of education	Total	Percent	Psychiatrists		Psychologists		Social workers		Professional nurses	
			Total	Percent	Total	Percent	Total	Percent	Total	Percent
Total	3,852	99.9	741	100.0	477	100.0	647	100.0	1,987	100.0
M.D. and Ph.D.	35	.9	35	4.7	0	----	0	----	0	----
Doctorate (Ph.D, Ed.D.)	317	8.2	0	----	311	65.2	5	.8	1	.1
M.D.	697	18.1	697	94.1	0	----	0	----	0	----
Master's	775	20.1	0	----	119	25.0	594	91.8	62	3.1
Graduate, no degree	251	6.5	0	----	40	8.4	41	6.3	170	8.6
B.A., B.S.	287	7.4	0	----	2	.4	1	.1	284	14.3
A.A.	96	2.5	0	----	0	----	0	----	96	4.8
Three-year diploma	1,314	34.1	0	----	0	----	0	----	1,314	66.1
No degree	39	1.0	0	----	0	----	3	.5	36	1.8
Not specified	41	1.1	9	1.2	5	1.0	3	.5	24	1.2

[1] See Table 1.
[2] See Table 1.

Table 5

NUMBER OF PSYCHIATRISTS, PSYCHIATRIC RESIDENTS AND PSYCHOLOGISTS BY CITIZENSHIP STATUS, MENTAL HEALTH ESTABLISHMENTS, STATE OF CALIFORNIA, 1963[1,2]

Citizenship status	Psychiatrists		Psychiatric residents		Psychologists	
	Total	Percent	Total	Percent	Total	Percent
Total	741	100.1	285	100.1	477	100.0
Native	620	83.7	242	84.9	403	84.5
Naturalized	94	12.7	27	9.5	44	9.2
Alien	8	1.1	7	2.5	19	4.0
Unspecified	19	2.6	9	3.2	11	2.3

[1] See Table 1.
[2] See Table 1.

THE OVERALL MANPOWER PROBLEM AND THE CREATION OF A NEW DISCIPLINE: THE NONMEDICAL PSYCHOTHERAPIST

Lawrence Kubie, M.D.

The Overall Manpower Problem

Numbers alone solve no problems. Indeed numbers without excellence can multiply damage. But excellence without an adequate number of excellent scientists and practitioners is a mockery. Therefore let us consider the manpower shortage not with the illusion that numbers is *the* answer, but rather in the knowledge that without numbers there can be no answer.

According to statistics from several independent sources.[7 8 11 12 14] this country may expect to reach a population of 200 million by 1970, and of 380 million by the year 2000. Therefore, before we can even dream of how to increase the per capita mental health manpower supply, we must consider what we can do in an effort merely to keep up; i.e., to maintain approximately the existing ratio between the expanding population and the personnel trained to give help to other human beings. There is at present a shortage of professional personnel for every phase of such work. The roots of this shortage are in the failure of our lower schools. This problem must be solved first if we hope to create and maintain an adequate national pool of those who have the capacity for professional careers and who will seek such careers.

A. The Limited Sources From the School Years

Presently, in an effort to increase their own numbers, national associations, including those in the fields of engineering, education, medicine, nursing, social service, physics, and chemistry, are trying to recruit additional numbers of students at every level. This practice is skimming the cream from the top of the milk without considering how to increase, or even maintain, the supply of milk. Yet, private foundations are supporting such actions. Congressional bills are proposing scholarships in various fields, in some of which money is more easily available than in others. The American Medical Association has inaugurated a program of lending funds to medical students, house officers, and residents. Dael Wolfle, Director of the National Manpower Studies, has pointed out that recruitment into any one profession is always at the expense of others, which are also in need of additional manpower. "All of us are fishing in the same talent pool; and an increased catch by one means a loss by another." There are large segments of our population which could add to this talent pool, but are not being tapped. These segments include large numbers of mature women whose children are moving on into their own lives, certain special minority groups such as Negroes, and the lower social and economic groups. Nor is it justifiable to assume that the latter lack the necessary latent capacity. As an example, tests conducted in Harlem have made it evident that merely increasing the teacher-pupil ratio, and providing students with opportunities to participate in activities from which most youngsters of that economic and social group are usually excluded, has a remarkable and swift effect. Many of these students have taken a giant step forward in school performance, in their ambitions, and even in their scores on standard aptitude and intelligence tests.

Appropriate studies have shown that, in an educational institution which focuses on high academic achievement, the effects are felt throughout the student body, with the result that a larger percentage of the entire group will seek higher education; whereas in schools and colleges where high academic achievement is scorned, even those students who entered with academic ambitions tend to abandon them. This latter trend is seriously depleting our potential supply of talent.

Current figures show that only about one youngster *in 10 enters the professional* manpower pool. The curve of decline is significant. Of 10,000 grammar school students, 7,800 enter high school and 5,700 graduate from high school. Of these, only 2 000 enter college and 1,200 graduate. Only slightly more than 1 out of 10 grammar school students graduates from college. As a result, 30 percent of young American adults will enter the labor market in the 1960's without having finished high school. These statistics represent the mass of students as a whole, without respect to intelligence.

The statistics on the intellectually elite are equally disturbing. From the 2,000 who, with respect to intelligence. are in the top fifth of this sample of 10 000 students 1 960 enter high school and 1,850 graduate. But of these only *860,* or less than one-half, enter college; of these, *692* graduate from college. That out of the top 2 000 only 690, or slightly more than one-third, should graduate from college is a disastrous waste of our intellectually gifted youth. This fact should be of major concern to our educational leaders because it is only those who graduate from college and who go into professional schools will make up the talent pool from which to draw in any program of training specialists to deal with personal problems.*

B. The Doctor Pool

Let us consider the situation in medicine.

It is estimated that if we are to maintain the existing proportion of physicians to population, we will need to increase the annual number of medical school graduates from 7.193 in 1960 to a minimum of between 9 000 and 11,000 by 1975. It is variously estimated that in order to accomplish this increase we will have to add from 25 to 35 new four-year medical schools between 1968 and 1975. (The problem of how to staff so many new schools with competent faculty remains unsolved.) Furthermore, between 1952 and 1961 the number of applicants for medical education in this country dropped by 25 percent, from 19,920 to 14 397. In addition to the drop in applications, there was an increasing percentage of failures in medical school.

Finally we must keep in mind the fact that an increase of between 25 and 35 new schools would mean an investment of between $1.5 and $2.5 billion. If each school should graduate about 100 men and women annually, which is the current average, and if not more than 10 percent of these went into psychiatry as is true at present (see below), then this total investment would yield not more than 250 or 350 new psychiatrists per year, or from 1.750 to 2,450 for the entire period between 1968 and 1975. This number would be in addition to the current annual recruitment of about 700 psychiatrists per year from existing medical schools. Yet through age, illness, and death, we lose about 500 psychiatrists per year. This leaves a rate of growth so slow that we will continue to fall farther and farther behind. Nor is there any evidence that economies in medical and surgical time will release a larger percentage of medical school graduates from medicine and surgery to psychiatry.

C. Psychiatric Recruitment [1 2 3 4 17]

Various studies show that while the number of residencies approved for training in psychiatry is slowly increasing, nearly 40 percent of these posts remain vacant. Therefore, the number of trained psychiatrists who are being turned out by our entire program of medical and psychiatric training is increasing only by minute increments. It could hardly be otherwise, since the number of physicians who are being graduated is not keeping up with our expanding population, and since the number of these new physicians who are turning toward psychiatry is increasing so slowly that they are far from keeping up with the increasing demand. Instead, they are falling behind the rate of increase of physicians and surgeons in the various fields of organic medicine. According to several studies, recruitment into psychiatry from graduates of different medical schools varies from 1.2 percent from some schools to as high as 22.5 percent from others, while an average of somewhat less than 10 percent of all medical graduates go into psychiatry. But the situation is in reality more serious than these figures suggest. In one medical school there may be a sudden brief burst of interest in psychiatry, so great that in one year 20 percent of its graduates will go into psychiatry. Yet in that same school two years later, under the same leadership, the percentage of graduates heading for psychiatry will drop back to 2 or 3 percent. I could cite several schools in which this has happened.

There are other disconcerting facts to face. Our medical schools regularly turn out more graduates than they can place in first-level teaching hospitals with approved residencies in medicine and surgery. This leaves a residual pool of graduates who cannot be placed in good teaching hospitals. Discrimination against minority groups used to play a significant role in this situation, but this factor, fortunately, seems to be diminishing. Today in most instances the students who fall into this pool of leftovers have low scholastic records, too low to win them appointments in good hospitals. Many of these people drift into psychiatry only because jobs are always available in psychiatric hospitals. They make up a fair percentage of the 10 percent of all graduates from medical school who go into psychiatry.*

During the period between 1956 and 1958 there was an increase of over 30 percent in the total number of approved residencies, from about 2,000 to 2.700; these figures, however, do not represent an increase in the number of persons in training, but only an increase in the number whose training was in approved posts. Furthermore, during this period there was a large increase of foreign-trained physicians, from 10 percent in 1950 to 40 percent in 1960. By now this source is nearly exhausted. There was also an increase in the percentage prolonging their training beyond the minimal three-year requirement. This practice was healthy from the point of view of quality, but did not add to the needed numbers. Taken together, these figures indicate that the rate at which the whole group would complete training and become ready to make active contributions to community needs was increasing more slowly than the number of approved residencies.

An eminent authority summarizes the situation in these words:[2]

"I have shown in detail the fact that psychiatry is falling behind. Certainly our output of psychiatrists cannot be much expanded because this medical specialty is competing with other highly rewarded medical specialties for recruits from the limited pool of medical school graduates. As there is no immediate prospect of any sizeable increase in the output of our medical schools and as psychiatry will continue to recruit something less than 9 percent of the approximately 7,200 new medical graduates each year, psychiatry cannot keep up with our growing population and with the need for replacement of those who leave the field." *

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* These data were collected by Dr. Daniel N. Funkenstein, and presented in a paper delivered before a conference on graduate psychiatric education in Washington, D.C., in October of 1962. This paper also contains a fully representative bibliography.

* There is an additional late recruitment from among physicians who turn back to psychiatry after they have been out in general practice for several years. This is an interesting group of able and useful men and women; but their numbers are small.

D. Psychologists [2 5]

At the end of World War II there were approximately an equal number of clinical psychologists and psychiatrists in this country. Ten years later the number of psychiatrists had barely doubled, while the number of psychologists had quadrupled, reaching approximately 18,000.

Among the psychiatrists we find that from two-thirds to three-quarters are involved in hospital psychiatry and hospital administration, leaving only one-quarter to one-third engaged in community psychiatry, i.e., in schools, social service agencies, courts, clinics and private practice.

Among the psychologists we find that about one-third of the 18,000 are engaged in clinical services, with a larger number employed as college teachers. Another large group is employed by the federal government in research. In addition, a large but undetermined number are engaged in aptitude testing, personnel management, market research, or are employed by private industry. Therefore from the point of view of diagnosis and treatment we must look upon the existing manpower pool of clinical psychologists as a future potential source of recruitment rather than as an immediate service resource.

Of the 18,000 members of the American Psychological Association about one-third are in clinical psychology. Of these about one-fifth are in private practice. Albee points out that merely to maintain the present ratios, by 1970 the total output of Ph.D.'s from all graduate schools will barely keep up with the annual dropout rate from illness, retirement, and change of professional activities. Furthermore, he finds an identical prospect of similar shortages in every other mental health field, such as social work, psychiatric nursing, psychiatric aides, and clergymen.

He also points out that all professional activities are concentrated in urban areas, and that this is especially true of psychiatry and of clinical psychology. The 10 most urbanized states contain 38 percent of the population, 43 percent of all physicians, and 55 percent of all members of the American Psychological Association.

Looking into the future, one can say that unless psychiatry begins to try to enlist the interest of the college student, it must continue to do its recruiting in medical schools and from among the medical students. Psychologists, on the other hand, are more generally already in direct contact with college students.

E. The Situation in Psychiatric Social Work

Of the 36,654 members of the National Association of Social Workers, 5,074 are student members or emeritus or retired members. This leaves 31,580 active members, among whom 5,454 are members of the psychiatric section. In 1960 nearly 105,000 individuals were involved in the field of psychiatric social work. Nearly 75 percent of these are public health workers who are not fully trained and are not recognized members of the association. Some have had one year of training, some have had just a few special courses, some have had no training other than practical experience. The vacancies for additional trained social workers and public health workers are variously estimated at between 20,000 and 50,000, over the whole country.

As of November 1, 1962, there were 6,039 students in graduate training, throughout the country. Of these, 5,862 were in a regular two-year curriculum for the master's degree, except for 1,402 who were in placement in psychiatric social work agencies. The others were in advanced doctoral training to become teachers.

In New York City, as of June 1965, there are approximately 4,000 professional social workers with master's degrees, of whom about 950 are psychiatric social workers. This is probably a higher percentage than exists in the country as a whole. In June of 1965 there were close to 3,500 social workers graduated in the whole country. The New York School of Social Work graduated 168, or slightly over 4 percent of this number.

Applications for admission to training have been booming, and seem still to be going up, even allowing for duplicate applications to more than one school. In fact, the enrollment has gone up 90 percent since 1954. Most schools, however, are now at full capacity, and cannot accommodate more students.

The dropout rate from the whole field is between 5 and 8 percent. What percentage of these dropouts are from the fully trained group and what percentage from the less trained group is not known. In view of this dropout rate the overall numbers are not increasing rapidly enough to compensate for the loss, much less to keep up with population expansion.

F. Future Sources of Personnel [9 16 17 18]

There is one assured source of available manpower which will increase steadily through the coming years and to which we will have to turn. Not only is life growing longer, it is also growing healthier. Today people are younger at 50 or 60 than they used to be at 30 or 40. With the solution of the problem of arteriosclerosis, the supply and riddance systems of the body will remain intact and membrane permeability with them. No one knows whether the process of aging will merely be postponed, or whether it will wholly disappear from human experience. Either way, there will then be a vast number of people who will have behind them the concrete experiences of marriage and childrearing. Their children will be well on in their own schooling and in their own grownup lives. They will bring to the study of living the advantage of having lived, of having made their mistakes before undertaking advanced schooling. This will be true of men as well as women, because there is no evidence that the duration of the earning years will increase with longevity. It seems rather to be decreasing.

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* Albee, George W., "American Psychology in the Sixties." *The American Psychologist*, Vol. 18, February 1963, No. 2, p. 92.

Therefore these young older citizens will need the employment which industry will not be able to provide. For this they will demand training in the art and science of living. To it they will bring the same advantages that the veteran of World War II brought to his educational experience at college in the years after the war. Drs. Margaret Rioch and Charmian Elkes have shown that eight college women whose children were away in school and college, and who had had no specialized prior experience, could be trained to become effective psychological counsellors in two years of closely supervised training.[15] This was a pilot demonstration at a simple level; but it has critical significance, pointing the way toward a new profession.

Our immediate manpower resources are limited; but those to which we can look forward in the future are enormous. There will be more years in which to acquire expert skill, on top of the experimental fumblings of our early years. This means that Methuselah is about to return, and that the possibilities of the future are almost infinite. We definitely have grounds for realistic optimism.

The Creation of a New Discipline

Another potential source of psychiatric manpower is the creation of a new professional discipline, that of nonmedical psychotherapist. The following section of this paper * describes a framework within which the integration of psychiatry as a medical specialty, as a subdiscipline of psychology, and as a branch of sociology will be possible.

For reasons to be developed below, we will call this framework a "school of psychological medicine." Such a school will require the conjoint operations of (a) a medical school, (b) all aspects of the behavioral sciences in the academic departments of the university, and (c) a graduate school of applied sociology, sophisticated in the evaluation and manipulation of environmental stresses. Any university which does not include these three essentials will be hampered in its efforts to make clinically mature and scientifically productive contributions to the field of psychopathology.

The Framework

In a school of psychological medicine the department of clinical psychiatry would be precisely what the clinical departments are to a medical school. This is not an accidental parallel. In every medical school the clinical departments constitute the point of convergence for all of the preclinical sciences; in the field of human biology they provide the definitive tests of our ability to use our knowledge effectively. They test the ability: (a) To identify early distortions of normal ontogeny, and also the subsequent deviations from normal development which ensue in later years; (b) to identify the necessary conditions under which they continue (together these isolate the different processes of illness); (c) to predict the courses of the processes of illness, and to anticipate changes in them; (d) to alter their courses; (e) ultimately, to prevent these deviant developments.

These are the final critical tests, both of therapy and of prevention, to which the clinical disciplines subject our knowledge of human biology.

In a school of psychological medicine, the behavioral sciences must subject themselves to the same searching tests. And since the clinical challenge in this inclusive sense is the ultimate test of our knowledge of human behavior, the department of clinical psychiatry must be the apex of the school of psychological medicine, thus paralleling directly the structure of medical education. Operating under the conjoint auspices of the medical school, the relevant academic divisions of the university, and the graduate school of applied sociology, a school of psychological medicine would be the natural bridge between human biology and what, by historical accident, are miscalled the humanities.

The model for this is not new; it duplicates the history and structure of medical education itself. There was a time when medicine consisted of anatomy and a clinical apprenticeship. Today, a department of medicine without a medical school behind it would be a helpless anachronism. A department of clinical psychiatry standing alone is even more anomalous than a department of medicine standing alone. Therefore, what the clinical departments of medical school are to the school as a whole, the department of clinical psychiatry should be to a school of psychological medicine.

The School of Psychological Medicine

No medical scientist today can master all branches of medical science. Psychological medicine covers an equally broad expanse of human knowledge and of the search for knowledge; no one human being can master all of this. Therefore, the school of psychological medicine must be a center in which people who are trained and/or training in these converging disciplines can work together. The following list is not all-inclusive, but it gives an indication of the range:

1. Statistical methods.
2. Basic human biology (i.e., fundamentals of human structure, physiology, reproduction, biochemistry and biophysics, including basic principles of immunology).
3. Human growth processes and comparative growth (structural, physiological, endocrinological, neurological).
4. The stages and processes of psychological growth (perceptual, sensory, sensorimotor, instinctual, affective, conceptual, symbolic, individuation, boundary setting, object relations).

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* A large portion of this section is reprinted from *The Journal of Medical Education*, Vol. 39, No. 5, May 1964, pp. 476–480, with permission.

5. Comparative human cultures (cultural anthropology, including variables in cultural anthropology with respect to mythology, abstract concepts, sociology, economics, population density, etc.).
6. Ethology (i.e., the comparative cultural anthropology of subhuman cultures).
7. Applied sociology (the essential social variables in the human condition; the study of social and familial variables in our own culture, the theory and practice of psychiatric social work—i.e., theory, techniques and experience).
8. Experimental animal psychology (subhuman).
9. The techniques and theoretical implications of the conditioned reflex both for subhuman and human subjects.
10. Experimental human psychology.
11. Clinical psychology, including the development and design of test instruments for special purposes.
12. Education and learning theory.
13. Linguistics and communication theory.
14. Neurobiochemistry and neurophysiology.
15. Psychopharmacology.
16. Genetics in relation to all types of variables in psychological and psychophysiological states, patterns, or processes.
17. Genetic psychopathology: Genetic includes genic heredity; intrauterine, vascular, biochemical, immunologic and traumatic disturbances; the psychonoxious influences of close family figures on the developing infant and child; the lasting influence of early separations and other early deprivations (such as the influence of early starvation on growth and general neuromuscular development and their affective and psychological consequences). It includes also the effect of the kinds of birth, the influence of the ordinal position in the family, and of the gender sequence and spacing among siblings.
18. Descriptive and dynamic psychopathology: the ontogenesis of normal and deviant psychology, and its grouping into consistent sequences: i.e., circular chains of biogenetic and/or psychogenetic events, plus the secondary distortions which they feed back to produce further symptoms with fresh distortions, etc. (it is this chain of progressive distortions which constitutes the neurotic process, and which under appropriate circumstances can decompensate and explode into psychotic disorganization.)
19. Psychopathology, manipulatives: The study of (a) psychotherapeutic techniques; (b) psychonoxious techniques; (c) hypnagogic influences and other dissociative techniques for inducing states of communicative sleep (both one-way communication and two-way communication); (d) the manipulation of body temperature and body chemistry; (e) drugs (including insulin); (f) electroconvulsive therapy and electronarcosis; (g) psychosurgery.
20. The ultimate tests of prediction and prevention.

The understanding of the neurotic process is at the basis of all psychopathology; and since it is a universal distortion of normal development, it is perhaps the greatest single unsolved problem of human culture. It can be understood only by those who live with it and study it as a developmental disturbance from earliest childhood. Tomorrow's professor of psychiatry will be a master of the neurotic process. He will see the psychotic episode as a precipitate from these neurotic struggles. He will have begun his training in psychiatry in the nursery of the obstetrical service. He will allow no resident to attempt to treat the psychoses until he has had several years of experience with the neuroses of infancy, childhood, adolescence and of young adult life.

The Necessary Tempo

It is well known that there are some disciplines in which major contributions can be made, and in fact frequently are made, by bright novices. Mathematics is the usual exaple of this. There are others where, by reason of their essential nature, mastery comes slowly and late; psychiatry is one of these. Psychiatry in fact requires two kinds of maturity: personal and clinical. Personal maturity takes years—that is, the time that living takes. Clinical maturity requires the further time which it takes for patients and their illnesses to evolve and change.[20] The student of human psychopathology who wishes to master his field must live through these changes with his patients. There is no place in psychiatry for young men in a hurry, who do not allow themselves time to mature. They cannot think creatively, since this requires time for drifting, time for dreaming, time for lying fallow. Furthermore, hurry makes for uneven development, and for a dependence on terminological clichés which in turn produce an inability to communicate with others even within the same discipline if they do not use the same cliché system. In the past everyone had to be in a hurry. Life was not long enough to produce mature psychiatrists. We live longer now, and we can afford to take more time. We no longer need to worry about reaching the senilium before we reach maturity.

This is another reason why the history of psychiatry has been marred by uneven development, and by a lack of vitalizing communication among theoreticians, experimentalists, and pragmatic clinicians. Disciplines which should be mutually informing and inseminating were and still are mutually scornful and competitive. For example, private practice is one of the essential ingredients in training. Yet here we find psychiatrists who are clinically experienced naturalists, but scientifically undisciplined. In hospital psychiatry, which is another essential ingredient, we find the psychiatrists of the psychoses, who work only at the end of the road of illness and rarely see how illness begins and evolves. In community agencies and so-called "social psychiatry" or "public health psychiatry" we find psychiatrists of the heart—that is, naively hopeful idealists who have not taken a fraction of the time which the mastery of psychiatry requires. As young men they have been in the greatest hurry of all. They have been impatient to help the masses and have not taken the time to learn patiently by working with individuals, a discipline without which they can never become masters of their own field. Finally, in medical schools we still find too many teachers of psychiatry who are inexperienced, both as clinicians and investigators. These are the "academic amateurs" who can teach only what they have been taught[21]; therefore, with rare exceptions they are traditionalists. Even their so-called research is rooted in tradition.

There are gaps of communication among all of these, and also among the preventive psychiatrists of childhood and the naive sloganeer-psychiatrist of rehabilitation for the aging patient; between the psychiatrist of the neuroses and the psychiatrist of the psychoses; in general between the psychiatrist of research and of practice. Perhaps the most destructive division of all has been between the psychophobic organicist and the organophobic psychologist or psychoanalyst. None of these really communicates with the others.[22]

Here is precisely where the influence of a school of psychological medicine can replace these competitive and divisive tendencies, by a unifying concept and by an organization within which men can advance slowly toward maturity on a broad front, under a tent large enough to include many disciplines which are not represented in the catalogue of the biological medical disciplines.

Launching the Organization and Its Administration

The organization of a school of psychological medicine should bridge the gaps between medical education, several graduate departments from the academic side of the university, and a graduate department of applied sociology. This will necessitate many overlapping appointments at all levels, and joint financing by the appropriate divisions of the university.

Such a multidisciplinary school would require the appointment of not just one full professor, but several. They must be mature humanly and scientifically, and of proven productivity in their respective fields. As already indicated, in future generations of clinical psychiatrists it will be recognized that this maturity demands many years of work with the neurotic disturbances of infancy, childhood, adolescence and adult life before approaching the psychotic precipitates. The slow pace at which maturity develops, especially at the clinical end of the spectrum, makes the middle forties to fifty an appropriate age bracket.

After they are chosen, these men should be given some years of further freedom, before they assume their new responsibilities. Although this may sound novel, it actually follows a precedent established at the founding of many new hospitals and medical schools. The first professors are appointed some years before they take over, and are encouraged to work abroad and elsewhere while the hospital and school are being built. The story of the launching of the Johns Hopkins Hospital and Medical School is a notable example of this.[23 25]

Such a delay enables the appointees to conclude the investigations in which they have been engaged, to record results, to study and travel. During each of these years, however, all of them, whether clinicians or not, should be required to fulfill two obligations: (a) each would be expected to spend at least six weeks out of each year in a different department of psychiatry; and (b) they would be expected to meet together for a few weeks out of each year, perhaps in summer, and with consultants if desired, to discuss their evolving ideas and future plans. These years would enable the university (in consultation with the new appointees but largely during their absence) to build whatever new plant and facilities their future plans would require.

With joint authority vested in the medical school, in the often nonexistent but urgently needed graduate school of applied socoiology (that is, medical and psychiatric social work), and in the relevant graduate departments of the behavioral sciences in the university, a special administrative officer would be essential. Perhaps a vice dean or vice president for the school of psychological medicine could serve all essential administrative and liaison purposes.

Such a plan as this would recapitulate in the field of psychological medicine several hundreds of years of medical education condensed into a few months of intensive planning.

A Legal Framework for the Nonmedical Psychotherapist, to Protect Against the Organic Hazard[26 27]

The practice of nonmedical psychotherapy, as described above, might well arouse a special group of fears of what we may call "the organic hazards." With proper planning and legally enforceable scientific precautions, this danger may readily be avoided.

Before specifying the nature of the risks and of the precautions, it may be useful to consider some of the paradoxes which face us here. Every day, in every medical and surgical office and hospital, competent internists and surgeons and specialists in various aspects of somatic disease overlook the presence of concurrent psychological disorders, e.g. masked neuroses, subclinical deliria, and even masked psychoses. We do not blame our collegues for these oversights, because we know that patients unwittingly use organic ailments to mask their psychological troubles. This sin of omission, the overlooking of concurrent psychological disorders by the internist or surgeon, is taken for granted by ourselves and by our colleagues, with little or no comment, and only mild criticism. On the other hand, when the psychiatrist misses the presence of an organic disease, a great deal is made of the oversight, both by our colleagues and by ourselves. Why are we and our colleagues so complacent about their sins, and so reactive to our own? Is it because of a difference in the seriousness of the consequences? Or because of a difference in the time lag between the sin and its results? Even when serious trouble results from overlooking a concurrent psychological disorder in a patient with somatic disease, these results are rarely immediate (except for a rare suicide in an unnoticed depression or masked delirium). Usually someone else will look back some years later to realize that an opportunity *may* have been missed to use psychotherapy early for preventive purposes, that is before serious psychological disorder would have had time to develop. In contrast, organic emergencies may follow promptly when the presence of a concurrent organic ailment is overlooked by a psychotherapist. Such a situation may be quite dramatic; and the quick sequence of events makes it easier to appreciate the causal relationship between the sin of omission and its results. Apparently the amount of attention an error receives may be a measure of the immediacy and seriousness of its consequence rather than of its ultimate seriousness or of its frequency. Indeed the amount of attention paid may even measure its infrequency. (Parenthetically, medical psychiatrists take an almost childlike pleasure in making an organic diagnosis which has been missed by one of their organic confreres.)

Yet it is not enough to sit back complacently and to reassure ourselves by considering how rarely the psychiatrist overlooks concurrent somatic disease. If we are to protect the patient against this risk, whether he is undergoing treatment by a nonmedical or by a medical psychotherapist, we must review in detail the types of risk and the varied relationships or organic ailments to the neurotic process, as well as the different kinds of situations in which they can arise.

A. These risks fall into four major categories:

(1) There is the danger that somatic disease can produce symptoms which simulate neurosis, and conversely that neurosis can produce symptoms which simulate somatic disease.

(2) There is the danger of overlooking or underestimating the role of an organic illness which may have played a contributory role in the chain of events that produced the psychological illness, or determined its severity, or which may sustain it and keep it going, and which may tend to defeat otherwise appropriate therapeutic efforts.

(3) There is the danger that somatic disease can tend to mask neurosis (just as conversion symptoms mask conflicts and affective distress). The result is that in the face of recognized somatic disease, a concurrent neurosis or a subtle drift to psychosis or even a masked organic delirium may be overlooked.

(4) There is the danger of missing the subtle intrusion of an intercurrent organic disease during the treatment of a neurosis which may have had no somatic complications when the treatment was launched.

B. Ingredients in protection:

(1) Medical education.

Medical skill must certainly be enlisted if our patients are to be protected from these errors. Of this there can be no question. Yet we must ask ourselves:

(a) To what extent does the medical training of the therapist himself protect the patient from these errors?

(b) Although medical skill and knowledge must be brought to bear by a physician, must this physician himself also be the therapist?

(c) Is this the only or even the best way in which medical skills can be brought into the picture to protect the patient?

These questions can best be considered together.

No matter how excellent his basic training may have been in general medicine, pediatric medicine, or neurology, no medical psychiatrist can "keep up" in any one of these indefinitely, much less in all of them. Therefore as the years pass, his medical skills in diagnosis and therapy become increasingly "dated"; and if he is honest he comes to depend more and more on specialists in these areas, almost as though he himself were a nonmedical psychotherapist. Furthermore, in order to protect his psychotherapeutic leverage, and in order to keep his relationship to the patient uncontaminated, he usually prefers to call in the internist or specialist as soon as the patient's complaints alert him to the possibility that some organic problem may be present. Usually he does this without examining the patient himself, and without passing even a preliminary judgment on the nature of "organicity" of the complaint.

The elements that he can legitimately hope to retain and use from his years of medical training are an alert watchfulness for hints of organic trouble, a comfortable acceptance of the reality of organic threats, and a relative freedom both from a panicky exaggeration of their importance and from any tendency to hope that if he ignores and disregards the threat, it will go away (the well-known defense by denial). Because he is less likely to panic at every hint of organic symptoms, he usually will not call for as many unnecessary organic consultations.

These are indispensable aspects of the psychotherapist's equipment. In the following section we will consider primarily the medicolegal framework which can protect patients from the consequence of the deficiencies which any therapist, whether medical or nonmedical, may have in these respects. These attributes are an expression of temperament rather than of training, and do not flow automatically from medical training alone. In spite of medical training, the psychiatrist may lack them. They require not only a sound and up-to-date medical base, but also a freedom from subtle, neurotic distortions in the therapist himself. If the nonmedical psychotherapist has had adequate exposure to organic diseases on medical and surgical wards, and adequate and effective personal therapy himself, he can be as alert to and as objective in the face of organic threat as is the medically trained psychotherapist.

(2) Therapy for the therapist.

This brings us to the hard fact that in the case of both at least as much depends upon the effectiveness of the therapist's therapy as upon his training.

Everyone who practices psychodiagnosis and psychotherapy reacts to risk in varied ways; and how each man reacts depends not upon the formal content of training but upon individual differences in thresholds of anxiety in general and in the play of those concealed phobic mechanisms which create special thresholds for special trigger mechanisms. Therefore in the effort to protect patients from human error, our problem is how to lessen the distorting influence of concealed neurotic anxieties among practitioners. This difficulty applies equally to the medically trained psychiatrist and to the nonmedically trained psychotherapist.

Actually this situation is familar to all of us in the wide range of reactions among parents. There are parents who react to the threat of somatic or psychological disturbance in a child by denial, by pretending that it does not exist. They do nothing about illness even when warned to do something, sometimes refusing to face a painful reality until a major threat to life itself or a major threat of psychosis confronts them. Other parents are so overanxious about somatic or psychological disturbances, so guilt laden and terrorized by them, that they overreact and do too much. These treat every splinter as a surgical emergency. Furthermore, we find these differences even among parents who are themselves physicians. Overanxiety in the parent is destructive, because it can infect the child with exaggerated psychological or organic fearfulness. Denial is dangerous because it can allow the child to drift into greater danger, physical or psychological. Transplant this danger into the relationship of the therapist to his patient, and we find the same differences; and what is more, we find them operative whether the psychotherapist is medically trained or nonmedical. Here again, the parallel to the parent-child relationship is close. Therefore in any program of training in psychodiagnosis and psychotherapy, whether for medical or nonmedical personnel, we must consider the methods by which we can help the therapist to be free enough from neurotic anxiety to deal realistically with both organic and psychological threats.

My own conviction is that the best way to handle this problem is to provide adequate personal therapy to everyone who is going to deal with psychological ailments. This must be done during the training process and in a mileu in which they will at the same time be forced to confront all of the painful, realistic details of both somatic and psychological ailments and their vicissitudes. This is one of the reasons why I have always urged work on medical and surgical wards and in social work agencies as essential ingredients in any such curriculum.

(3) Medicolegal protection.

In several previous publications [10, 15] I have pointed out how simple are the medicolegal instruments which can protect patients from the possibility that organic complications might be overlooked. Therefore I will outline these only briefly here.

(a) The license can specify that no nonmedical personnel is to be permitted to diagnose or treat any patient by any method until the patient has been screened by a diplomate of the American Board either of internal medicine or of pediatrics, who will also be responsible for calling in any other specialists who might be needed to explore special problems.

(b) The license can specify further that any patient who is in treatment with a nonmedical psychotherapist must be rechecked for organic illness by a board diplomate at appropriate periodic intervals throughout the course of psychotherapy, perhaps every four months or every six months.

While these measures would not totally eliminate the possibility of missing some fulminating and catastrophic intercurrent organic illness, they would reduce this risk to at least the same dimensions as those which exist when the patient is in the care of a medically trained psychiatrist. In contrast to the psychiatrist, whose organic medicine is dated, the board-certified internist, pediatrician, or other specialist would be relatively up to date. Therefore the risks to the patient inherent in such a system are actually less than those which a patient incurs under our present system, in which the medical psychiatrist is under no legal obligation either to struggle to keep himself up to date, or to call in any colleague from somatic medicine at any time.

(c) Finally, the license may specify that every patient who is in treatment with a psychotherapist must have a "family doctor" (preferably a board-certified internist or pediatrician when available), to whom he could turn with any organic symptoms which may arise, and whose cooperation with the therapist in the prescription of simple remedies would thereby be assured. Here the decisions would be in the hands of the physician cooperating with the nonmedical therapist.

4. The handling of medication and of hospitalization:

The question is left open as to whether or not in the course of time a nonmedical therapist should be given the legal right to participate in decisions as to commitment to hospital care, as to sedation and as to the use of chemotherapeutic agents. My personal conviction is that all medications must remain in medical hands and that, for the present, decisions concerning commitment must remain in the hands of the medical profession and the medically trained psychiatrist. In the course of time, however, if the new profession becomes firmly established in its training and curriculum, the nonmedical psychotherapist may well be allowed at least to participate in these decisions, if not to make them.

5. The Legal Status of the Nonmedical Practitioner:

One other medicolegal issue to be explored is the status of the graduates of such a curriculum in different states, each with its own medical practice act. This again is a matter which those who are interested in these developments will have to consider carefully at some future point. None of these problems would seem to pose immediate or insoluble problems.

Clearly the protection of the patient and the protection of the practitioners require not only special training and experience but also a new legal framework, only the bare outline of which is indicated here.

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CROSS-FERTILIZATION: ITS IMPACT ON UTILIZATION AND TRAINING OF MENTAL HEALTH PERSONNEL

by

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It is common knowledge that for many years there has existed in California a serious shortage of qualified personnel in the field of mental hygiene. This shortage has been felt and still is felt most acutely in the professional categories of psychiatry, psychiatric nursing, psychiatric social work, and psychology. The usual reasons given for the mental health manpower shortage have to do with salaries and working conditions; these are said to compare unfavorably with those in other fields of endeavor which compete for the available personnel. The problem of mental health personnel insufficiency is not caused merely by relatively low salaries and inadequate working conditions. Admitting that these are important inhibiting elements in the effectiveness of the present California state mental health program, they are not the only important ones. For this reason, I should like to suggest remedies concerning the shortage in talented, well-trained, and experienced personnel in the field of mental health from another, and a rather neglected, point of view: *first,* the point of view of improving the effectiveness of the mental health staff *presently* employed by the state through the continued training and upgrading of clinical and institutional employees (a method now utilized but not nearly to the full extent of its possibilities); and *second,* that of an increase in the appeal of mental therapy programs of state facilities to creative, talented, and well-trained people in order to retain the most qualified present staff members and to attract new ones. Although I am here making a distinction between two points of focus, in the discussion that follows, I shall not compartmentalize them, since they are two inextricable aspects of a single dynamic process. I shall also make brief mention of some ways of utilizing available manpower unused in mental health programs, and make reference to mental health preventive measures to lessen the burden on our already overtaxed facilities.

To begin with point one—the ways of making the work of the present staff more effective. As the child learns from his parents, so the beginning worker in the field of mental health learns from those in positions of leadership and looks to them for guidance, support, and inspiration. Qualified staff members should be given the opportunity and the time to train others in their own techniques. Lack of arrangement for this kind of instruction does not merely fail to upgrade the less experienced personnel, but constitutes a failure to utilize the full worth of a particularly gifted staff member. An example of talent going begging is the case of a talented psychiatrist of my acquaintance who gives only a few hours a week to the supervision of those learning to do psychotherapy. As there is a real need in this area of training for more expert supervision, so well-qualified a person as this psychiatrist should be allowed to devote more of his workday time to this aspect of the mental health program. In the case of this particular individual, the opportunity to supervise learning psychotherapists is a particularly attractive aspect of the mental health program, as it happens to be one of his principal interests. Here a man is deprived of an opportunity to contribute in ways in which he is most qualified and desirous of functioning. He could easily be given more time for supervisional work, while some of the routine work he is doing could be assigned to other psychiatrists not interested in this specialized pursuit.

Supervisory work provides a good illustration of an activity which involves beneficial results for both the relatively inexperienced worker and the trained mental health veteran. Here the personnel is engaged on all levels, with the supervising person usually learning as much as the one being helped, provided of course that *both* come to the session *well prepared.* Another important consideration usually omitted in the supervisory situation is that of placing together people with similar personality traits. People with dissimilar personalities could benefit from a contact in such a situation at a later time in his kind of training relationship, but in the initial stages of the supervisor-supervised contact, considerable personality differences lead to an obstruction of the learning process through possible lack of communication and consequent frustration. For example, a trainee who approaches the outer world through intuitive judgments and feelings should, if possible, be placed with a trainer who is also intuitive in his style of apprehending men and their situations, and who would, therefore, speak the learner's language, appreciate his particular talents, and assist with their further development, while being able to help him, sympathetically, with his blind areas. If such a beginner should be placed with a supervisor who approaches reality through an analytical-thinking mode of perception and understanding and who relies largely on the mere matter of fact conception of evidence based on the testimony of the five senses, there will be little meeting of minds between the two so necessary in the intense dialogue which supervision becomes at its optimum.

I know of no growing and inspired professional in this field who does not find this sort of work gratifying once he has participated in it, yet few find themselves doing it. Perhaps special opportunities should be provided and inducements and requirements created to reveal the attractiveness and productivity of this learning situation to both the beginner and the experienced professional.

An example of supervised work training which extends the radius of the staff's productive activity with great positive results is occurring here in the context of an experimental program with the use of alcohol in autistic children. Those patients who are given the drug are first seen in a one-to-one play situation with the same person in 15- to 30-minute daily sessions, and the technicians on the staff of the hospital have volunteered to participate in this experiment under the careful supervision of the professional staff. Even in the earliest stage of this program, a tremendous spurt in enthusiasm and interest on the part of the staff became evident, and now more persons are asking to participate. The children's parents also show more interest in being involved, and there are indications that patient discharge rates will increase. Also worth noting is an important byproduct of this program—an improvement in the nonprofessional-professional staff relationship. The technical staff, seeing itself as an integral part of the hospital team no longer isolated from the professionals, has lost its antagonism to the "intruders" who come into the wards to work with the children. Also of importance in the use of technicians in experimental work is the relatively greater permanence of the technical staff. We consider it of some advantage for the long-term work with these children to have persons work with them who will remain on the wards for years.

A glance at the lecture series offered by any forward-looking mental hygiene facility in the state would convince us of the wide diversity of disciplines from which we can learn. Surely the opportunity of contact with fresh points of view and with persons doing the kind of peripheral and definitive work we may not have the time or chance to pursue must be considered one of the important ways of making mental therapy programs in state facilities attractive to professionals of the highest caliber. (This in reference to the second point made at the outset of this paper.) The most obvious way of providing an opportunity for such contacts is through work alongside of experts fascinated with their own tasks and able to communicate their spirit to us. Work in such an atmosphere makes one aware of new possibilities in one's own field and creates inspiration to initiate programs which will capture the interest and energy of his colleagues and subordinates.

As a different example of this sort of cross-fertilization of points of view, I should like to describe my own experience during a recent teaching appointment at a local college. Twenty-five psychology department students entrusted to me learned about the dynamics of human behavior from my clinical point of view. I, in turn, became a student of their views and their literature. This proved to be a very taxing but altogether fascinating and important new field of study for me. My residency training program had left no time for such studies in the kind of detail I now had to go into. I also learned how a cross section of college students functions in a challenging learning situation. Remarkable changes in attitude took place in them as was evident from what they wrote, and said, and did. I regret being unable to enlarge upon the interesting psychological data in student group behavior that I unwittingly initiated and witnessed. To keep to the theme of my paper, I shall, therefore, report only that soon after their classroom experience, six of the students volunteered to work individually with autistic children. They were supervised at different times by our physician, social worker, and psychologist, thus obtaining an overview of these three different points of view. At the end of the term they all spoke of their experience as the most significant and compelling activity of the school year, though it was done by them without regular school credit. Due to this work, three of them, who had not yet selected a major, decided to concentrate on counseling and psychology. They had found the combination of child-centered play therapy, along with the introspection necessary in their ward-sessions at the hospital, real sources of inspiration, and they plunged into the literature on schizophrenia. In their reading, they unearthed works with which, in many cases, we were not ourselves familiar, spurring us on to further study on our own. Because of the dynamic atmosphere in our ward an outside consultant decided to spend more of his available time on our ward, and this became a further spur to the technical staff which had been encouraged to attend our group supervisory meetings. This "inbreeding" started the technicians on some reading on their own. They requested a library, and we, of the professional staff, were able to contribute toward this need by donating some of our own books, which had been gathering dust on our bookshelves.

At the beginning of the students' work in the hospital, I did most of the supervision. Toward the end of their school semester, the other professionals on the staff, who had not done much work of this sort with college students, made themselves more available to the program due to their interest in the learning process which they were witnessing, and which they themselves, in varying degrees, were undergoing. Gradually they came to handle most of the supervision, thus freeing me to spend more of my time with another group of students taken on at mid-year.

Another bonus of the college student participation in ward work was the changed attitude of most of the parents of the children worked with. They became recharged with hope that their children would make further progress and therefore showed more interest and willingness to engage in the dynamics of the therapeutic process with us and their children both within the patterns of the hospital program and involving similar arrangements outside the hospital's walls. The professors of the local college also showed more interest in our programs; they took students in increasing numbers and more frequently on tours of our facilities, etc.

My entire paper could be devoted to this most important of all mental health training situations—a college student's learning by participation. Its importance is attested to by the fact that many colleges are now exploring this mode of education. For example, Antioch College will this year change over to a system of "core" presentations (sufficiently covered in our programs now), which can be done in a lecture situation, and a system of preceptorship in which one professor-adviser-counselor has 15 students to work with. Under such conditions the teacher, in effect, writes an educational prescription for each student. Preceptor conferences may be used to replace grading, and there will be seminars to meet the specific needs of the students. At the college where I taught, next year the program will be broadened to include regular credit for the type of work the first students did voluntarily, and additional wards will be made available as training centers with character disordered as well as mentally ill children.

Before leaving the topic of college student participation in ward work, it is worth mentioning that one of the most fruitful uses of young enthusiastic college students in the field of mental health is in push programs to get older chronic patients out into the community. These students serve on such a program from three to six months, which seems to be time enough for relationships to develop which are necessary to spur the patients on to the mobilization of their energies and the resumption of their normal lives beyond the walls of the hospital.

As another means of broadening and "energizing" the mental health program at our state facilities, I wish to suggest contact with persons working in areas of mental health in a manner different from ours. One of these is in the field of work with character disorders in which, to date, we have not been very successful. We must bring greater clarity and more successful therapies to our comprehension and our treatment of the psychopath, the alcoholic, and the drug addict. At present there exist a number of resources we could use in assisting us to define the problem and in setting up actual programs for these social misfits. It seems clear from the success of some correctional work and from other experimental and nonprofessional self-help organizations that these persons need a special type of program. It has been shown that persons most recently recovered from these disorders are more accepting and understanding of their fellow sufferers than we are. We should seek out these recovered ones and get their help in designing and carrying out programs of treatment in this difficult field. Too many of us professionals now treat people with these character disorders with attitudes varying from the rigidly authoritarian to the permissively naïve. These people are in many cases included in therapy groups without any clear notion on the part of the professionals as to how to handle them. Certainly such groups as Alcoholics Anonymous and Synanon, the self-help group for drug addicts, have shown that these types of disorders can be treated far more cheaply than their treatment costs us, and with results usually superior to our own. We could import experts from these groups to assist us in our programming—a look at the Nevada State Prison in Reno, where 23 percent of the inmates are under the care of Synanon personnel at a cost of $1,000 per month, should make the most skeptical among us start asking some pertinent questions.

Fruitful contacts can also be made by professionals with laymen in the area of community psychiatry. Residents in training are now experiencing some remarkable contacts with the teachers and parents of disturbed and retarded children. During meetings, usually held in groups, the parents or teachers express their anxiety, frustration, helplessness, fear, or anger, concerning the children who are in trouble. The professional clarifies what is going on by encouraging the teachers and parents to express all the complex feelings their difficult situations evoke. As a result of these professionally led sessions, the teachers or parents are able to return to their respective situations with increased confidence and are better able to deal with their problem children, either by more expert handling of their problems or by referring the child to more specialized services.

It is gratifying to see how little help is necessary in the case of children who are not seriously disturbed. The parents become able to provide the growing experiences the child needs with a minimum of professional help. This is an exciting learning situation for the psychiatrist, and parents, and teacher. I have seen a family with two such children in trouble, one schizophrenic and one delinquent, able to function quite well after these two were returned home from the hospital. The family was seen together each week by a professional, and the teachers each four weeks. With this kind of working together the boys were able to complete the school year, and the adults concerned were quite pleased at their new confidence and skill in handling these disturbed boys. This sort of work with teachers and parents indicates how one psychiatrist can, in effect, "cover" scores of children, many of whom might otherwise have had to enter our facilities.

There are other large areas in family type therapy as yet hardly explored, such as the inclusion of families of psychotic patients directly into the hospital setting, or the handling of acute psychoses in the home setting by the use of teams moved into the home.

It can be seen from the foregoing discussion and examples that the improvement of the state mental health program involves a considerable variety of fronts along which advances can be made. The utilization of hospital patients in self-help programs is yet another one of these. In a recent reorganization of a ward of adolescent boys and girls, it became apparent that in the interests of developing more self-responsibility, young people should be encouraged to take a larger part in the making of plans for their own activities. As this development progressed, the young people began to ask for more privileges. They were then reminded, as they had been earlier, that we would expect them to take responsibility for controlling their own behavior and doing something about violations of the new regulations which they were setting up for their own control and protection. In this atmosphere of change many new and exciting things began to happen. One by one these patients began themselves to regulate their own use of medications, asking for the drugs to be discontinued as they began to feel more in control of themselves, or for a resumption of a drug use when they came to realize that they were in need of this sort of assistance—clearly recognizing in a new and responsible way when to ask for help and when to dispense with it because of a sense of greater reliability of their inner control mechanisms. In several instances the healthier youngsters spontaneously drew up rules to protect the sicker ones, even to the point of providing constant supervision during certain hours or situations and restraining those among themselves (with our assent and assistance) who persisted in provoking the vulnerable ones.

Among the resources at our disposal as means of betterment of the mental health situation is the large untapped reservoir of potential volunteer mental health workers available in every community. Considerable numbers of intelligent and energetic laymen not personally connected with difficult psychological situations but eager to perform some public services are available for recruitment. These include single older women in the community who may have raised families and who could well work in the state services caring for bedridden mentally retarded patients. These women need not receive much training, although they should be recruited and oriented very carefully. Even before starting to work, they should be put into task-oriented groups where they could be assisted, their misgivings dealt with and their needs for some sort of stimulation and challenge met. Nor would they need to work fulltime. Some sort of reduced hours for such nonlicensed or nonaccredited persons should be worked out.

In the same group of available but as yet unutilized volunteer manpower are the countless retired couples who lead relatively isolated, inactive lives, while feeling a need to continue to be productive members of the community. These include former teachers and retired armed services personnel, or parents whose children have grown up. These persons could be asked to join task-oriented groups in which they would receive training to qualify them as foster care parents. They could be used to relieve foster parents from their responsibilities for several hours a day and to set up halfway schools to prepare those foster children who are not yet ready to cope with a public school situation. The availability of such potential foster parents, as well as continued assistance from trained professionals, would do much toward the overcoming of the foster and child-care home shortage, which is caused by the above indicated crucial problems in the field of foster care.

The question of reaching the volunteer help must, of course, be considered. Such means of contact with the public as "medical career" display at a fair, or a group visit to one of the hospitals, have not received the attention they merit. More use of devices to arrest the public's attention and invite their participation, such as offering them simplified projective tests to experiment with, provocative confrontations by one of our more nimble group leaders, or a psychodrama demonstration in which they can participate, ought to be utilized. With skilled persons in charge, such encounters are bound to be fruitful, even exciting. It is usually easy to get a social group's permission for demonstrations such as these.

The state mental health program is also badly handicapped by a misplaced conservatism and lack of daring, and this has a direct bearing on its vitality, flexibility and scope. I would like to refer to one example of a "failure of heart" which has caused the loss to the mental health program of a vital rehabilitating agency. (I am sure that those who read this report can supplement this example with others with which they are familiar.) Recently in Berkeley a group of undergraduates at the University of California became fired with the idea of a halfway house facility in or near the campus. It is significant that a large part of the leadership for this project came from a young woman who had been leading a sort of double life, working as a technician at Napa and also going to school to complete the work for her degree. The group had successfully completed all the preliminary spade work, even obtaining thousands of dollars in pledges* (mostly from psychiatrists). At this point some of the members of our own department became interested and, on investigating the project, advised these young students to go slow and firm up the structure of their undertaking before proceeding further. In the process of attempting to implement a more official plan and of finding a more conventional way for donors to support them, time and effort were dissipated, and the school year came to an end. As it turned out, the whole venture was lost. The culprits were the competent professionals and men of goodwill who had forgotten the drive and spirit and flexibility which bounced them over obstacles in their own youth. They became discouraged, knowing that similar plans had failed from lack of planning within their own departments. They had forgotten that hardships can be overcome by young persons willing to give endless hours to challenging tasks and that their institutional perspective tends to be stultifying of new, risky, and creative efforts: that three shifts and complete coverage become redundant when young people roar in to take over. Support for this youth oriented apologia is easy to find for him who has eyes to see and ears to hear.

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* An interesting method of financing individual therapy in connection with a halfway type of facility in San Jose has been communicated to me; here the patient borrows the requisite funds from the bank, offering as security a note cosigned by the therapist; the note becomes due as soon as the patient becomes self-supporting and able to pay.

There is also to be noted in official circles an increasing reluctance toward the use of drugs in experiments, whether it be alcohol or one of the drugs that effect changes in the state of consciousness. For instance, it was difficult for a researcher in a nearby institute for the mentally retarded to conduct a study on the effect of alcohol in headbangers. Research with the newer deleriants, such as ditran, is receiving very little attention, and studies on the more psychoactive consciousness changing agents, such as the hallucinogens, is practically at a standstill in spite of the encouraging studies on such diverse and resistant conditions as childhood schizophrenia and the more severe character disorders. We must recognize the existence of a strong impulse toward dangerous and sometimes illegal experimentation. For example, there is an increasing drive in students all the way from those in junior high to residents in psychiatry—and more recently in whole segments of society, especially the professional classes, toward self-experimentation, alone, or, more commonly, in groups with the so-called mind opening drugs. Possibly some of this impulse toward daring experimentation can be channelled into well-designed research studies. Certain planned structural group situations under responsible leadership could utilize the adventuring explorers for productive ends, and with less risk. They could possibly become a part of a sensitivity group training program in which the members gradually come to trust each other and to reveal more of themselves to one another with a resultant learning about others and about one's self, a process frequently accompanied by changing behavior and attitudes. In these situations and others on a similarly intense level, many times, certain of the participants are curious to try out their less defended personalities in various types of new experiments involving the use of drugs that effect changes in the state of consciousness. In the absence of structures in which identity can be sought and power tested with protective, concerned, resourceful, *non*parental adults, there will emerge more impulsive and destructive forms in which these same adolescent strivings will find expression. One might well speculate that the teen-age street drag races and the vast increase in drug use are an expression of severe frustration resulting from their failure to grapple with their life problems in a strong, forthright, and adequate manner because of a feeling of hopelessness, an uncertainty as to their place in an uncaring, even hostile world, which gives them few opportunities to test themselves in challenging work and play and to find situations which serve to sever their ties with their parents and initiate them into their own world, a bridge to their coming adulthood. An integrated program which provides for these difficulties might possibly include not only some of the ways of strengthening the mental health program mentioned above, but also drug *research* with the consciousness expanding agents. Such a program might serve a prophylactic purpose and even be lifesaving to many young people.

RESEARCH is a word one might well spell out in capital letters. Until we can truly provide an atmosphere of learning for its own sake, we will have work to do; have much work to do right now, for our institutions have barely scratched the surface here. And yet in this area few outside experts are needed, and not much money is necessary. An official nod and several hours a week of freedom for the interested staff members are all that's needed for a start. This sort of activity would soon attract students and professionals in increasing numbers, as I can attest from the small project I have initiated on my own ward. Some of the interesting frontiers we might explore are:

I—Negative conditioning and other pavlovian behavior-oriented techniques; exercises in gestalt therapies; Frankel's paradoxical intention methods; Berne's intimacy confrontations; Luthe's autogenic training; hypnosis; re-education of body movements and relaxation techniques; expanded music and art therapies; mirror techniques with borderline psychoses; autopsychodrama of Arndt (exaggerating the feeling of self-pity of the child with the symptom); psychodrama and sociodrama; etc.

II—Treatment of character disorders by—confrontation, ridicule, exaggeration, smashing the person's defenses in a protected setting, conformation of the person (supporting his sickness until he sees its absurdity); work with adolescents based on the premise that they have little guilt, their problem being instead that they have a need to control self/others; directive therapies with the passive and borderline psychotic.

III—Newer drug therapies:

- (a) coma therapy with atropine, scopolamine, and ditran;
- (b) use of drugs to produce states of heightened sensitivity, lability of affect, more intense detachment and involvement in turns, loosening of the defensive structures and controlled regressions; all of which may be of great service to the ego in its coping when used in proper settings by persons with experience in these areas.

  These alterations in consciousness can be produced by many agents. Some of the most useful seem to be the amphetamines used parenterally (including ritalin), CO_2 gas, and the hallucinogens.

IV—Work with dreams and fantasies—experimentation with guided and spontaneous daydreams; studies of the psychiatrist's fantasies on the dreams of his patients to get a greater grasp of his countertransferences; imaginative constructs of the coming next steps towards a person's growth.

V—Studies of how recovered patients see their cures; the examination of the adjustment of the schizophrenic in remission; alcoholics and their spontaneous or conversion cures; the bottom patients seem to hit before starting to recover; the "therapeutic leap"—when, how, why it occurs.

The foregoing catalog of research projects might seem to be a digression from the central topic of this paper, the shortage of mental health manpower. But availability of time and/or proper conditions for research are very important means of attracting talented, forward-looking professionals. And the opportunities of contact with them is bound to stimulate the rest of the staff and student-workers, many of whom would benefit directly from the supervisory learning situations, which will undoubtedly arise in a "swinging" research atmosphere. And such a climate of work, combining as it does idealistic with realistic-practical considerations, would be a guarantee that our common labor would be pursued in dignity and hope.

The development and utilization of talent in each of us would be bound to occur if a setting were provided for mental health workers in which basic security were coupled with the excitement and positive anxiety of an ongoing quest for deeper knowledge of the human self—others' and our own. This can be done in the work setting we find ourselves in now with but a little liberalization and intensification of program. The object is to meet others in ways which test and reveal the potential in each of us. Under such conditions our job will become an increasingly fascinating enterprise pursued with commitment, cooperation, and interest in assisting others to find their places in this field of activity.

A group of competent leaders in such endeavors already exists. This body would have to be substantially increased in the near future. The further development of interest in the field of mental health depends on contact by inspiring professionals with talented young people looking in our direction. Just as in the pursuits of business, the theater, and public affairs, persons of great skill and influence attract recruits into their respective fields, so must we draw into our field talented young people in increasing numbers before we will graduate a higher caliber of person into our midst.

MEETING SCIENTIFIC MANPOWER NEEDS IN THE FUTURE

Betty M. Vetter

Introduction

There is no shortage of figures forecasting the supply and demand situation for scientific manpower over the next decade or two. What is missing is the master crystal ball which would allow accurate assessment of the many projections that are made; the master computer which could separate fact from fancy, probability from possibility, and predict with accuracy the major technological developments of the next decade; and a central archive for collecting all such studies for comparison and analysis, both in the interest of eliminating duplicated efforts, and of providing a central source where information could be retrieved readily.

Within the past year, the National Science Foundation, the National Academy of Sciences, and the Engineering Manpower Commission each have issued a scientific manpower report. Projections of future needs in these reports are somewhat contradictory. The NSF study (basing projections largely on past trends) estimates a need for 579,700 scientists by 1970, in addition to 1,374,700 engineers and 1,296,700 technicians. The report predicts that this demand will not be met.

The Engineering Manpower Commission's survey challenges the numerical conclusions of the NSF report, and points out that there has been a noticeable decline in the demand market during the mid-60s. Their projections, based on 1963 employment figures, and the estimates of company personnel officers as to their manpower needs a decade ahead, indicate a steady growth in demand for new graduates, particularly in engineering. The report suggests that the supply of new graduates will continue to fall short of the demand, but to a lesser degree than NSF predicts. For physical scientists, the EMC survey indicates that employers usually were able to meet their requirements for scientists in 1963, although new graduate recruiting goals fell somewhat short. For the next 10 years, survey respondents estimated a 100 percent increase in the number of physical science and math graduates they expected to hire. Compared with an estimated 130 percent increase in the projected number of graduates, this appears to imply that no shortage of physical scientists will exist a decade hence.

The National Academy of Sciences Committee on the Utilization of Scientific and Engineering Manpower found both "unmistakable shortages" and "identifiable surpluses," with conditions varying by region and specialty.

Our annual output of B.A. graduates in the natural sciences, health professions, and psychology in 1973–4 is estimated by the U.S. Office of Education at 242,440. M.A.'s are expected to total 47,570 in these fields in that year, and Ph.D.'s 13,360. This number does not include M.D.'s.

Even if comparable figures for estimates of demand in these fields were available, such factors as the number of graduates who will actually enter the profession, and the major technological breakthroughs which may occur, would need to be worked into the statistics in order to assess accurately the complex problem of whether the supply will meet the demand.

The Elliott Committee's Report No. 2, *Manpower for Research and Development*, emphasizes the uncertainties of manpower planning by noting that "A change of as little as one tenth of 1 percent in the estimated proportion of research and development spending to the gross national product would alter the number of personnel needed, say in 1970, by more than 20,000—almost three times the number of science and engineering doctorates granted in a recent single year."

In the specific specialty of mental health, the experts agree that a manpower shortage exists in most areas, and that this shortage will persist into the future unless some drastic change occurs either in supply or demand. In some other areas of science as well, including physics and mathematics, a definite personnel shortage exists.

In the belief that the technological advancement of the past decade will continue, the assumption must be made that as many highly trained scientists as can be made available will be needed, and can be used effectively for the benefit of the nation. Since personnel in mental health represent a specific segment of the problem of shortages in scientific manpower, this paper will consider mental health manpower separately only when solutions are specific to that field.

A shortage of scientific manpower can be alleviated in two ways. We can decrease the need, or we can increase the supply. Let us consider the latter first.

Recruitment

Increasing the number of trained personnel for the future begins with imaginative recruitment today. Although we often think of career decisions as occuring in late high school or early college years, interest in a scientific career can begin at the age when many children believe they want to grow up to be firemen or policemen. We need more exciting and better written books about science and scientists at both the elementary and high school levels, and even for the preschool child. Our science textbooks, particularly in the elementary grades, rarely stimulate the imagination and foster the experimental urge which has not yet been stifled in most children of this age.

We need to interest children in science before they are old enough to think of it as a difficult subject. This is imperative not only in our recruitment endeavors for scientists, but in order that our general citizenry will be encouraged to attain a scientific literacy sufficient to allow their citizen participation in a scientifically oriented society.

Junior high and high school students need more accurate, more interesting and more specific career guidance materials in science, as well as a better directed emphasis on the humanitarian nature of science to satisfy the idealistic generosity of this age group.

The problem of career selection has many aspects, some of them readily understood and some distorted by factors of completely intermixed relationships. According to Dr. John Daley, author and researcher for some of the Project Talent studies on the American high school, prediction of type of career choice can be made at quite an early age.

Dr. Daley says that there are three major factors which determine the career probability of an individual: his family's position within the socioeconomic structure; his intellectual ability; and his motivation to achieve. The largest dimension is the position within the American class structure to which the child is born.

Several years ago, students were asked to rate occupations by their status level. Answers to the same question today show that the status levels have not changed appreciably, and that this status ladder is actually an occupational hierarchy which correlates well with education. At the top of the ladder are the skilled professions, and at the bottom the unskilled labor. Most American children will aim higher on the scale than their parents.

There are three important factors involved in an individual's ultimate position on this status ladder. First, all children start at a point somewhere on the ladder. While the system is fluid, and changes in the status ladder can take place readily, most progress is up, rather than down.

Second, the potential to rise on the ladder is also the potential for academic work. While we are unable to predict the exact profession a student will elect, we can predict accurately the general level he will occupy on the basis of his ability. Without massive intervention, about half of the youngsters born into families at the bottom of the ladder will stay at the bottom. Most of these with higher ability, with luck, will rise.

Finally, an essential component of upward movement on the status ladder is the motivation to want to move up and to achieve. If this motivation is lacking, even a privileged child may not achieve satisfactorily.

Our knowledge of this status ladder is important in career recruitment. Within the armed forces, for example, an enlisted rank is not an acceptable status for bright youngsters as a permanent occupation. This has important implications for military recruitment as well as for scientific manpower recruitment at the technician level. Although technicians both within and outside of the armed forces will require more and more skilled training and ability to maintain efficiency in a technologically advancing society, the placement of technicians on the status ladder is now too low to attract the kind of intellectual capability which will be needed.

Another predictible factor determining the kind of career choice a student will make is his ability to acquire, retain, and transmit information. Physics and engineering, for example, while requiring a similar intellectual level, have a major difference in their requirement for verbal skills. The student with low achievement in verbal skills is much more likely to become an engineer than a physicist.

How, then, can we provide assistance to young people in the dynamic process of career decision making in order to assure an adequate supply of trained manpower for science? Science groups which prepare and disseminate career guidance literature in their specialties can take a deeper look at what they write, and make use of some of the current studies of guidance literature to assist their preparation of stimulating, informative pamphlets. The second step in this process is to make sure that the literature reaches its target—the interested student. Here, perhaps, we might take some lessons from Madison Avenue to see that students are aware of the availability of guidance literature. A recent small-scale investigation suggests that the bright, capable youngsters whom we wish to reach are not seeing the guidance pamphlets which our scientific societies write for them.

A closer understanding between the scientific community and school guidance counselors should be sought. Guidance counselors seldom have the scientific background they need if they are to assist in the recruitment process for scientists. They must be both knowledgeable and excited about scientific careers if they are to transmit enthusiasm to their students.

Even well-trained counselors and well-prepared guidance pamphlets usually can do nothing more than whet the appetite of a student for the kind of specific information which he as an individual wants to know. Since present methods are not highly successful in answering the individual, specific questions of students about particular careers in science, I suggest that professionals within the community should be asked to volunteer their time to talk to students individually, as well as to address groups. Students should have an opportunity to ask questions, and even to follow a practicing scientist through a normal day's routine. Where interest persists, the scientist ideally should maintain a continuing "big brother" relationship with the student through his years of career preparation. The dropout rate of students from science (and even from college itself) would be considerably reduced if the student had access to an interested but objective professional to whom he could turn for advice when he needs it.

Mental health recruitment presents an additional problem, and offers an additional opportunity for increased recruitment not open to physics, chemistry, or internal medicine, for example. Changing the public image of both mental health patients and mental health specialists, particularly psychiatrists, would stimulate interest in more young people for careers in this field. The horrors of the "snake pit" as a typical picture of mentally ill patients must be replaced. The word "psychiatrist," now likely to stimulate repetition of the latest psychiatrist joke, can be changed so that it will invoke an image of a dedicated, highly skilled professional man. Psychiatrists themselves, by virtue of their understanding of human motivation, should be able to formulate programs of public education whereby both of these images become more realistic in the public mind, and stimulate interest in careers in mental health.

Educational Patterns

A change in our recruitment practices obviously involves some change in our educational system. However, major changes in the educational process must be made if we are to increase our supply of trained scientists to any significant extent. If we are to recruit and train the number of scientists that will be needed, we must recognize at the outset, and admit widely and publicly, that all students are not created with equal ability, and we must not plan the educational process as if they were.

We need to identify as early as possible those gifted youngsters who frequently fail to maintain even average progress in our present system because the system is geared so largely to the average student. The bright child must be tempted early into broad discovery of the scientific world around him through special classes, seminars, exciting summer programs, and most of all through removing him from the grasp of those not-so-rare elementary school teachers who believe that their highest level of teaching attainment is reached if 30 children know exactly the same information and have achieved the same skills at the end of the school year.

As our school population continues to increase, we must fight the tendency toward more and more regimentation. Instead, we must use the tools of automation to identify and, where necessary, to segregate students capable of utilizing highly enriched education, and we must provide that education on as individualized a basis as possible through homogeneous grouping and, most of all, through stimulating teaching.

No change in the educational system can be effective unless we can recruit better and better teachers. This is particularly true for science. To accomplish this, we must give teaching higher status not only through salary increases (which are essential), but also through recognition. In the science professions, scientists must recognize and accept science teachers as coworkers, rather than as some subspecies within the ranks, unable to attain professional status. We must insist on better subject training, particularly in science, and on the elimination of most of the education course requirements which now take so much of the potential teacher's training time. We must seek out and publicly recognize superior teachers, through salary differentials and public acclaim, and we must allow our teachers at every educational level to spend their time teaching and preparing to teach, by removing from their job descriptions the hack work, the record keeping which could be done by persons with less training, and the supervision of unrelated extracurricular activities.

Just as scientists in the laboratory must have adequate equipment to do their jobs, so teachers of science must have good facilities and equipment, and good source material, including not only visual and auditory aids, but available consultation opportunities with other scientists. Finally, we must assure teachers the academic freedom and the individual rights of human dignity which scientists take for granted for themselves. These rights must be assured not only at the university level, but all the way down through the school system, so that good teachers may be encouraged to filter down from postgraduate teaching all the way into the elementary school.

In numbers alone, the requirements for teachers over the next decade are fairly staggering. The Office of Education estimates the total demand for new certified teachers in elementary and secondary schools during the decade for 1964–1973 at 1,883,044. The need for teaching staff at the college level is expected to rise from 352,000 in 1963–64 to 572,000 in 1973–74.

According to Office of Education statistics, we now have 2,226,000 men and women teaching at the elementary, secondary and university levels. The 2,738,960 they estimate will be needed in 1973 represents a net increase of 515,000.

But these numbers say nothing about quality even though it is apparent that the level of quality must rise along with the quantitative rise if we are to achieve the goal of educating every child to the level of his ability, and hence increasing the number of highly trained men and women in all professions that will satisfy our requirements for scientists and other supporting personnel.

We can increase our potential trained manpower supply by enlarging the base from which we draw that manpower. Without in any way diluting the standards of a university education, we must enlarge the number of qualified students for whom higher education is available by removing financial barriers and providing sufficient room in improved colleges and universities. Many projects are underway already to increase the number of scholarships and the better use of loan funds, but much remains to be done, and some federal loan funds should expand the forgiveness features that are now available for teachers, scientists, and others in shortage fields.

Increasing the available space in centers of excellence will require enlarging the number of junior colleges, and providing good post-high-school technical education for youngsters whose best contribution can be made at this level. This action will open available university space to more competent students, and must be accompanied by a parallel program of building new colleges and training teachers to staff them at a rate commensurate with the increase in college age students who should be in college.

Direct state and/or federal aid to schools, particularly for the acquisition of scientific facilities and equipment, already is a part of the vision of the present administration's "Great Society." Legislation passed by the 88th Congress, and legislative programs already outlined in the 89th, should continue to spur such aid.

If the shortage of trained manpower becomes crucial enough, or if studies show that our training processes can be improved in this way, we can shorten the length of the traditional educational process by several methods, including utilizing the full calendar year, changing the curriculum to shorten the traditional time span to a Ph.D., and particularly by allowing for and encouraging more rapid movement through the elementary and junior high years through acceleration, upgraded elementary programs, and better high school counseling for course selection.

Utilization

If we are to increase the supply of highly trained manpower, we must look beyond the training of scientists, and tap the manpower potential that is not presently being utilized at its highest competence. This process begins at the lowest level and necessitates holding onto students who now drop out of school, turn delinquent, and in some cases ultimately land on the relief rolls. To accomplish this, we must supply training appropriate to their ability and designed to hold their interests. While concern with students in the lower segment of intellectual ability may seem unrelated to the eventual increased supply of highly trained scientists, such concern is essential if the base from which we draw our scientific talent is to be broadened. Students of median ability should be given excellent technical training, which in turn will free the most intellectually able for the more specialized education necessary to fulfill our scientific manpower needs until manpower budgeting becomes, as it must, a matter of training and using every individual to the limits of his capabilities.

Dr. Wallace Brode believes that the percentage of our school age population capable of earning a college degree has a definite ceiling, which we have almost reached for men. We presently graduate about 18 percent of our college age group, but this includes about 24 percent of the males in this age group. In 1962, we admitted to college 601,000 men, or about 52 percent of the males of the college entrance age group, and we graduated 255,000 or about 24 percent. Thirty-eight percent of the women were admitted, and 13.5 percent graduated. Dr. Brode believes that to affect a major increase in the percentage of male graduates (from which 95 percent of the scientists and engineers come), we would have to lower the standards so as to admit considerably more than 60 percent or to graduate more than 25 percent of the age group. (Dr. Brode does not believe that we will increase our supply of trained scientists by increasing the percentage of women with advanced training in the very near future.)

Further, he points out that any proposal to raise the proportion of science and engineering graduates above the present proportion of the college graduating age group (20 percent of the college graduates, or 4 percent of the age group) must recognize that we either must develop a demand for women scientists and engineers or depend on increasing the number of men graduates. To graduate 35 percent of the males would require admission to college of about 75 percent of the males in the age group or almost the entire high school graduating group. Obviously the standards of college education would have to come down if a high school diploma were the only academic requirement for college entrance.

If Dr. Brode's estimate of the ceiling in the supply of scientific manpower as being approximately 4 percent of the male age group population is correct, then individuals of this level of competence must not be wasted by utilization at a much lower level of intellectual demand.

We are presently wasting a considerable amount of intellectual ability by our cultural practices. Minority groups, particularly racial minorities, who have, as a whole, been given more consideration as members of a minority group than as individuals, must be educated as individuals, each to the limit of his own capacities.

In the status ladder of occupational hierarchy, the disadvantaged child who begins on a low level, but whose intellectual ability fits him for a career much higher on the ladder, must be given the opportunity to rise well above the level to which his cultural birth level might ordinarily lead. This will, in many cases and for a few generations, necessitate early enrichment even at the preschool level.

We must revise many of our traditional hiring concepts, if we are to make use of a large pool of talent —our women. They, as well as men, must be encouraged to obtain education commensurate with their abilities. By utilizing women of all capabilities, we can provide efficient household help and capable child care by some women, freeing others whose abilities should be utilized both inside and outside the home.

Particularly, we must offer a basic incentive to women to train for the scientific professions by providing them an opportunity both to have a family and to participate in their profession. They must be encouraged by the incentive of future active participation to keep up with their fields during the years they may be out of the job market. Retraining and updating programs must be readily available.

Most of all, we must allow women whose children are between the ages of total dependence and substantial independence to work in their professions on a part-time or split-office basis.

For many areas of science, a part-time participation is insufficient for real efficiency. Many educated women with children of school age are not now working in their professions, because an eight-hour workday would involve neglect of their parental responsibilities. This problem can be solved, however, provided we are willing to recognize that the structural pattern of a traditional working day is just a tradition. A high proportion of jobs in scientific fields involve a few hours of work each day which does not necessarily need to be performed in the office or laboratory. Recordkeeping, writing, reading of the current literature, and many other functions can be performed in a second office—the home. The hours of the day during which children are in school can be used for that part of a job which must take place in office or lab, and the remaining two or three hours of a regular working day can be served at home. Children of school age do not demand constant attention from their mother or other responsible adult, but the presence of an adult when the children are at home is important.

Such a solution immediately brings up the problems of fringe benefits, health insurance, retirement programs, "favoritism" and break with standard practice. However, in addition to the major advantage of increasing the pool of trained personnel who might otherwise not work in their field at all, some fringe benefits also can accrue to the utilization of women under such a working schedule. Their commuting hours to office or laboratory are not within the traditional rush hour pattern, which both shortens the time needed to get to and from work, and removes some people from the already overcrowded transportation facilities of normal rush hours. In addition, women who might otherwise hesitate to enter scientific training on the basis that their elimination from the job market during a long period of child raising would outdate them for future employment in their field, might much more readily follow their inclinations to science if they could foresee the combination of a useful career and a satisfying family relationship.

Statistics indicate that although about 25 percent of our science graduates at the bachelor level and between 15 and 20 percent at the masters and doctoral level, are women, only 7 percent of the scientists registered with the National Register of Scientific and Technical Personnel are women. These figures represent such an obvious waste that we can no longer afford to allow our traditional employment practices to interfere with the utilization of our trained womanpower.

Trained women are not our only wasted manpower resource. Again, because of traditional retirement age, we eliminate from the available supply a large group with vast experience and a tremendous contribution yet to make. Our present mandatory retirement practices, based largely on pension and other fringe benefits, are tremendously wasteful. While some scientists are ready to and/or should retire by age 65, others (a large majority) still have many years of potential active contribution to make. They can help solve some of the teacher shortage, act in an advisory capacity in many ways, or supervise research. They could be of tremendous benefit in the career guidance interpersonal relationship described earlier, by providing a personal contact with young people interested in scientific careers.

Immigration will continue to add to our supply of scientists, and further study of ways to utilize foreign doctors and other scientists with shorter and less burdensome retraining should be made. Our licensing requirements, particularly for doctors, can perhaps be made less stringent without jeopardizing professional standards.

We can further increase our manpower pool by making use of more volunteer help, particularly in the fields of mental health. Many women who do not wish to work regularly but whose training and time availability could be utilized are not now being used to advantage. In the mental health field, ministerial associations and lawyers associations (many of whose members are trained in counseling), can provide an additional source of help. Many service organizations have more to offer in the way of volunteer help than they are now being asked to contribute. One further group—the bright high school students who do not have the time or training for part-time work—constitutes a sizeable and available pool of eager helpers whose voluntary participation, particularly in the fields of health, can not only increase the available manpower supply, but also will aid in the recruitment of such young people for lifetime careers in science.

Within the Department of Defense, a great deal more could be done to see that scientific personnel who are not currently utilized in their specialty are released from the armed forces to civilian service. For scientific manpower in general, present selective service regulations need to be changed in order to provide for the utilization of scientific manpower, either in a civilian or a military capacity, as an acceptable means for fulfilling the requirement for individual service to the nation.

Decreasing the Need

Another way in which we can work to solve the manpower shortage is to lessen our need for trained personnel. This possibility is particularly interesting in the field of mental health. Major large-scale advances in knowledge of chemical treatment of the mentally ill during the past decade already have made major inroads in the size of this population requiring constant hospital care. Obviously, continued research will lead to many other breakthroughs in treatment which might help to lessen the demand for trained personnel in mental health.

However, we must keep in mind that a large number of persons who need mental health treatment are not now receiving such help. The American Blue

Cross Association estimates that about 19,000,000 Americans have some form of mental illness, and that only 10 to 20 percent of these are getting any kind of treatment. This vast reservoir of untreated patients existing in the general population far overshadows the relatively small group who present themselves for treatment or are referred by some practitioner or agency for care. Therefore, we must recognize that research leading to new developments in treatment that might reduce the amount of care per patient may be more than overshadowed by our continuing attempt to aid the large segment of our mentally ill population not now under treatment.

A practical way to decrease the number of required workers is to make greater use of the processes of automation and of trained personnel at slightly lower levels of training; time-consuming paperwork and leg work occupy a large segment of the professional man's time, particularly in the fields of medicine. Concentration in this area of automation could decrease our shortage of highly skilled manpower very rapidly.

The early identification of potential mental health patients should allow better preventive treatment. Better liaison between ministers, lawyers, teachers and mental health personnel could not only reduce the waste of humanity involved in long mental illness, but also the ultimate treatment time for many patients.

We are making progress in our efforts to train the mentally retarded for potential employment, rather than envisioning lifelong programs of care for this segment of our society, and such positive programs should be widely supported.

Information Centers

As is evidenced by the widely scattered and sometimes highly divergent statistics on supply and demand for scientific personnel, and by the even wider discrepancy found in statistical projections of supply and demand, a major need exists for the establishment of a central source of availability for supply and demand data for scientific personnel. The House Select Committee on Government Research has recommended that "a single agency be given specific responsibility and authority for coordinating the various efforts of federal agencies to provide an adequate and continuing body of information on scientific and technical manpower." Such an office of the government would not only coordinate government studies, and hopefully eliminate duplication of effort, but should act as a central source of information for all reports and studies either completed or in process. The problem of manpower budgeting will become more and more complex in our technological society, and such budgeting cannot be effective without accurate, up-to-date, and readily accessible information on the needs for and supply of scientific manpower.

Plans and Prospects for Mental Health Manpower

Any assessment of the present situation and any proposals for alleviating present and future potential shortages in mental health manpower must take into account projects already underway and plans already announced. The Health Profession's Educational Assistance Act of 1963, authorizing grants to schools for construction of medical and other health education schools and loans to students, already is playing a major part in increasing the supply of trained health manpower. One hundred million dollars is available under the terms of this act in 1965, and President Johnson will request $75,000,000 more in 1966. In addition, the President has recommended legislation to authorize formula grants to help cover the basic operating costs of our health profession schools to experiment and demonstrate new and improved educational methods have been requested by the administration.

President Johnson has recommended legislation to authorize scholarships for medical students who would otherwise be unable to enter or complete training at today's costs. He also has stated that if we are to meet our future needs and raise the health of the nation, we must improve utilization of available professional health personnel; expand the use and training of technicians and ancillary health workers through special schools and under the Vocational Education Act and Manpower Development and Training Programs; expand and improve training programs for professional and supporting health personnel; and plan ahead to meet requirements for which the lead time is often 10 years or more. He has asked the Secretary of Health, Education, and Welfare to develop a long-range health manpower program for the nation and to recommend the steps which should be taken to put it into effect.

The government presently supports more than two-thirds of the total national expenditure of $1.5 billion for health research. The 1966 budget includes a 10 percent growth in expenditures for health research and related training, and funds to begin an automated system for processing the exploding volume of information on drugs and other chemicals related to health.

During the past eight years, the Health Research Facilities Act has helped provide research facilities to universities and other nonprofit institutions through federal grants of $320 million to 990 construction projects. This amount has also generated more than $500 million in matching institutional dollars. President Johnson has recommended that this act, slated to expire on June 30, 1966, be extended for five years, with increased authorization and with a larger federal share for specialized research facilities of a national or regional character. He has further asked the Congress to extend state authorizations for general and special purpose health grants, now scheduled to expire at the close of fiscal 1966, through June 20, 1967.

The President's health message to Congress also recommends hospital insurance for the aged under social security, better health services for children and youth, and improved community mental health services. Legislation enacted by the 88th Congress authorized aid for constructing community mental health centers, but the manpower necessary to operate these centers is lacking. The President stated that at least 10,000 psychiatrists are needed, in addition to supporting personnel. He has recommended legislation to authorize a five-year program of grants for the initial cost of personnel to man community mental health centers which offer comprehensive services.

How many of these recommendations will be enacted into law cannot, at this time, be predicted. However, the fact that the President chose health as the subject of his first specific message to the 89th Congress indicates the high priority which the administration places on this area of national endeavor.

Summary

Other studies on the manpower needs in mental health as well as in other areas of science are in progress. The results of many of these studies will indicate the need for a large infusion of money. However, writers of reports requesting funds should have little difficulty showing the economic, social and human conservation benefits which will ultimately result from the investment. In some fields of science, e.g. oceanography, studies of the economic benefits of increased investment already have been made.

However, some of the most effective methods of increasing the supply of trained manpower, such as the utilization of trained women on a part-time or split office basis, the utilization of scientists past age 65, and the use of more volunteers to remove some of the burden from highly specialized personnel, do not need extra money, and involve no long time or training lag. These suggestions should be considered for immediate action to alleviate present shortage situations, while the longer and more expensive procedures are still in the planning stage.

In summary, we can no longer afford the wasteful luxury of assuming that every child should have an equal education. The resulting common denominator is destructive both to the gifted student and to the intellectually average and below average child, and is an unforgivable waste of a part of our greatest natural resource.

We must correlate our manpower studies, and make their results widely and readily available to avoid duplication of effort and waste of money, and to help us budget manpower as an essential part of the planning for future generations.

In the words of President Johnson, "We have come to a rare moment of opportunity and challenge in the evolution of our society. . . Whatever we aspire to do together, our success in those enterprises—and the enjoyment of the fruits that result—will rest finally upon the health of our people. We cannot and we will not overcome all the barriers—or surmount all the obstacles—in one effort, no matter how intensive. But . . . we are already behind our capability and our potential. Further delay will only compound our problems and deny our people the health and happiness that could be theirs."

Chapter III

COMMENTS BY PANEL

AN ACTION PROGRAM FOR MENTAL HEALTH MANPOWER

An Overview of a Series of Articles on the Mental Health Manpower Problem

by

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As a preface to my review of the various articles prepared for the Mental Health Manpower Study, I will comment editorially on the needs of an action program designed to bridge the personnel gap separating the patient from treatment. After three years of directing a research-demonstration program designed to determine means and methods for improving the quality and increasing the quantity of personnel staffing mental health programs, I am convinced that nothing short of a concentrated, comprehensive program composed of several components that have the active support and cooperation of all directly and indirectly involved with mental health will solve manpower shortages restricting treatment and care of the mentally ill and retarded. Accordingly, I will note significant contributions of the various authors in sketching the integral parts of a pattern that would provide direction to an action approach for solving mental health manpower problems.

Dr. Joseph Cavanaugh, in his article "Mental Health Manpower Research," cites research problems such as conceptualization, definition and classification in planning methodology for mental health studies. Cavanaugh states that "only clear conceptualization and systematic research can provide useful answers to the numerous and vital manpower problems dealing with theory, policy, planning, evaluation and research itself." Recognizing these research problems, I was particularly impressed by Cavanaugh's delineation of needed research in three areas; namely, manpower pool or account, development of manpower resources, and employment conditions. Before proposing theories, formulating policies or implementing projects, competent research must take place. A mental health action program must be built upon a foundation of research. Also important is the need for research in evaluating results and recommending courses of action.

Dr. Lee Sherman Sanella, in his discussion "Cross-Fertilization: Its Impact on Utilization and Training of Mental Health Personnel," notes the need to improve current state programs so that their often negative approach becomes one of positive action. Sanella also recommended that personnel in short supply can function as consultants by training others to use acquired techniques and knowledge of the scarce professionals. Betty Vetter, in "Meeting Scientific Manpower Needs in the Future," suggests that expanded research and automation offers methods for improving treatment and lessening personnel demands. Thus, improving current programs so that they are attractive and offer a challenging experience and increasing the effectiveness and efficiency of available staff are methods of obtaining immediate relief for the manpower shortages. This approach to the manpower problem is of primary importance in that its effect can be realized immediately, the cost of accomplishment will be relatively small and—most important of all—all other efforts will be to no avail if our current programs are not improved.

In the previously cited articles, Vetter and Sanella discuss a second type of action that must be considered by those seeking to improve the staffing of mental health programs. They recommend the development of available resources that are not currently being utilized to their fullest potential. Expanded use of volunteers, retired persons, members of minority groups and part-time employees were suggested by Vetter. Sanella also notes the need to use untapped manpower resources and suggests the use of laymen in community psychiatry. In "Mental Health Manpower—The Use of People in Mental Health Activities," Dr. Daniel Blain recommended the use of personnel from services related to mental health, for instance—ministers, teachers and welfare workers. These proposals provide a second type of action to alleviate manpower problems in the mental health field—the development and utilization of untapped resources. This approach has to be given a high priority in that the manpower potential is currently available, results could be accomplished immediately, and the cost of implementation would not be a problem.

Betty Vetter, in the section of her article on recruitment cited above, briefly mentions the need for new, imaginative, and improved methods for motivating or interesting young people in mental health careers. Vetter points out that we must approach students earlier in their educational process, improve our methods and make certain that our efforts reach the young people to whom they are aimed. The Kentucky Mental Health Manpower Commission is currently conducting a five-year study to find new and better ways of interesting students in careers in the mental health field. Several specific approaches are being tested in working with schools, communities, and families. It is anticipated that the career motivation study will provide new methods for attracting young people into the field, and that these can be undertaken by existing mental health programs without requiring large budgetary resources. Another advantage of this approach is that it will not require an enormous amount of cooperation and coordination on the part of many agencies and associations. A disadvantage is that it will require some time to evaluate the results completely.

Dr. Wallace R. Brode, in his discussion of "Scientific and Medical Manpower for Mental Health Programs," notes the need for additional and expanded schools of medicine and a reevaluation of restrictions on foreign-trained physicians. Dr. Lawrence Kubie, in his article "The Overall Manpower Problem and the Creation of a New Discipline: The Nonmedical Psychotherapist," also comments on these problems, and notes that the population is increasing at a faster rate than the numbers of mental health workers being trained. Brode recommends changes in the training of psychiatrists to allow for specialization in the standard medical school curriculum, advocates that Ph.D.'s be trained for research and clinical treatment, and recommends additional support of foreign training facilities. Kubie advocates creation of a new discipline of psychological medicine and the establishment of an appropriate school; he sets forth the proposed school's framework, course content, and method of organization. The suggestions of Brode and Kubie vividly illustrate that the personnel problems of the mental health field, as well as those of other areas experiencing manpower shortages, have their roots in the educational systems. The above suggestions offer possible long-term solutions to problems restricting the supply of mental health manpower. However, the recommended changes will require a concentrated effort on the part of mental health programs, universities and colleges, and related professional associations. These proposals do offer new insights into the problems facing the mental health field; however, effort and time required for implementation of necessary changes would seem to detract from the immediate value of the proposals.

Dr. George Albee's thesis, outlined in "Needed: A Conceptual Breakthrough," presents a fresh new approach to the manpower problem. Albee contends that mental health manpower problems will not be solved until mental illness is conceptualized as the result of learned patterns of deviant social behavior; he advocates abandonment of the illness model in favor of a social learning model. The author indicates that such a conception would make possible the training of new kinds of personnel in sufficient number to effectively treat those needing care. Albee states, "When psychiatry returns to medical practice and gives up its claim to the behavioral pathologies induced by social conditions it will be possible to begin to deal with the manpower gap." Albee's challenge for a conceptual breakthrough offers potential that definitely should be considered by all concerned with mental health manpower problems. A major disadvantage in implementing Albee's contention is that it will necessitate the cooperation of many different parties. Additionally, a long-term effort will be required, and considerable time may elapse before results can be realized.

In summary, the insights gleaned from the series of articles sets forth a conceptual framework for an action program to alleviate manpower problems of the mental health field. This framework, resting upon a firm foundation of research, includes improving current programs, utilizing untapped manpower resources, increasing motivation, knowledge, and skills, implementing changes in education and training, and changing the treatment concept. However, this framework of a mental health manpower program cannot be successfully utilized unless a concentrated effort is made by all who are in a position to implement changes and improvements in the various areas. This is capably noted by Dr. Blain's quote of a statement by the National Manpower Council, "Only a purposeful and sustained effort can insure that the United States will have adequate resources of scientific and professional manpower to meet its [mental health] needs. Neither the reliance upon a single course of action nor the pursuit of separate and unrelated policies will enable the nation to attain this goal."

ON MANPOWER

by

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There is a decided consensus in the view that there is a need for more manpower in the mental health field. Projections of the present production of individual workers in the field quickly become invalid and nonpredictive as events, professional and political, modify the orderly course of all programs created to meet the vast need.

What we need is a national policy—an implemented program—which can meet current needs and not those of the past. Such a policy is evolving—a variety of its parts are gradually being put together, perhaps belatedly, by a host of groups, professional and political, mental health, psychiatric, social welfare, education, voluntary, national, state, and local, and by just ordinary people. Belatedly we find that an expressed need now felt quite broadly is resulting in a philosophy which as yet is not formally spelled out in all its aspects, nor is it certain just where it is going. Its general directions, however, seem clear.

The pessimists are correct: the numbers of professionals cannot markedly increase, given the small pool drawn from. However, a vast pool of people are moving into the helping professions in jobs not now labeled mental health or psychiatric—through poverty programs, volunteering in the new dimensions of the mid 1960's, assistants, backup persons and newly defined professionals.

The psychiatric field on its own must make a policy decision. Can they accept responsibility for redefining functions, for rewriting job descriptions so that new jobs will open within their domain; can they aid workers flooding into other fields who could benefit from consultation and guidance from our field and who will never own prime allegiance to psychiatry or mental health? To make this policy decision requires a major shift in our thinking; certainly we must train psychiatrists, psychologists, social workers and nurses. But we cannot rest on that responsibility alone; we must become involved in training a full range of workers who will work directly in the field and participate in the training of all others. Our own training must be different; even this is coming faster than we realize—the students, and soon the consumers, will be modifying our training faster than our top educators.

If we believe—as all the authors assumedly do—that there needs to be more manpower in our field, we must be prepared to enter the *arena* of decision-making and social policy where determinations are being made as to the relative proportion of our public and private expenditure that will go into the many competing areas of need. We must be clear; our goals must be goals of the consumers and not just those of the wise professionals. If people want service, perhaps we should demand public service in return for training, much as the armed forces requires service of all doctors. A clearer expectation of quality and standard must be enunciated.

Lastly, I do not forgo the possibility of breakthrough. However, much that is broken through now fails through poor implementation, an unwillingness to commit our resources, and an unwillingness to give up easily the techniques to which we have become accustomed. To do this—to make such new policy—may mean that we will be uncomfortable; we may not be in charge and the ambiguities of a new world of work in psychiatric fields will not be as neat as the known world of the private therapist or the now passing feudal baron director alienist of the mental hospital. To enter into the modern world, to meet the manpower needs of the 1960's and beyond, means accepting perhaps disquieting notions of the world, involving oneself in complexity, politics, and in worlds where we and others think we do not belong.

If we are to serve our community and meet the needs of people, we must become part of communitas and polis.

Plain Talk and Critical Comments Concerning Mental Health

by

Paul J. Hoffman

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My assignment is that of offering fresh insights into the problem of manpower in the mental health field, rather than of providing a critique of the papers in this volume. To profess solutions for this complicated problem is to make of oneself a sitting duck, and I am neither conceited enough nor masochistic enough to make the attempt. But neither am I complacent concerning what I perceive to be some very serious deficiencies concerning mental health manpower and its utilization. I trust these remarks will therefore be seen as being no more than serious reflections from a research psychologist who admits to very little special competence and very much public concern.

The first point I would like to make is one made repeatedly in the papers of this volume. It is that no one can deny the fact that we are hopelessly behind in the production of psychiatrists, social workers, and clinical psychologists, and that this situation is going to get much worse before it gets better. This is a sobering fact of life which offers no solutions in and of itself, but which must be dealt with in any attempt to plan for the future. This point needs no further elaboration.

The second point which needs to be made is that the problem of shortages of psychiatrists and other similarly engaged occupational groups *has no necessary relationship* to the problem of manpower availability for mental health programs. So that this point may be taken seriously, it is necessary first to diverge to a discussion of research and training, and of the development of the therapy movement in the United States and elsewhere.

The treatment of "mental illness" dates back to the work of people such as Pinel, Mesmer, Charcot, and others of that vintage, but its impetus was given by the Austrian group, the most notable of which were Freud, Adler, and Jung. Whatever else these men knew, they knew that they were largely ignorant of the causes and treatment of the illnesses of their patients. But through a combination of luck, persistence, and skill, they occasionally experienced the sweet feeling of success; at least some of their patients must have shown improvement, for the disciples of these men came to constitute the psychoanalytic movement. The development of psychoanalytic techniques preceded the establishment of experimental psychology, and, had the order been reversed, the emphasis today might have been far different. I say this because experimental psychology was largely responsible for the development of research methods and experimental design; methods which have led investigator after investigator to the conclusion that psychoanalytic therapy is not worth the effort and attention it receives. I say this knowing full well that the remark will be offensive to some readers, but this is a time neither for protecting a trade union nor for deceiving the public. It is a time when millions of our population are unable to find help. And the fact is inescapable that not a single, definitive, well-controlled, and repeatable study has been able to show more than a glimmer of superiority of this form of therapy over what would have occurred had the patient been able to avoid the therapist's office in the first place.

Students of clinical psychology usually encounter this fact early in their training, and as a result, they develop an interest both in finding alternate methods of treatment and in conducting good research aimed at establishing the scientific significance of new methods. As a consequence, we have seen, in the past two decades, the emergence of an astoundingly wide variety of treatment methods and an equally astounding number of research studies. Some of the techniques involve alterations in the role of the therapist, some involve a shift of the treatment locus from the office to the home, the school, a camp, or a community agency. In many instances the therapist comes away from the couch and begins involving himself in the daily activities of the patient. The emphasis may shift from the "mental illness" concept to the "behavior modification" concept. Other methods make the therapist merely an adjunct or a participant, and some, such as those concerned with the employment of operant conditioning, programmed interaction, and other training procedures do not involve a "therapist" at all. And, of course, the bartender can relieve feelings of anxiety through the administration of alcohol, just as the physician can through the use of drugs. Each has an experience of success with these methods, and neither has any special training for any others.

My purpose in mentioning these facts is not to espouse an alternative to traditional psychotherapy. For however disturbing it is to learn of the poor success with that method, it is even more disturbing to know that none of the other methods have yet proven to be much better. My purpose is only to indicate that the organized body of knowledge about psychotherapeutic processes is, in 1965, chaotic, to say the least, and that we are still groping to discover reasonably effective treatment methods. This being the case, how can any intelligent and objective person say that he knows how psychiatrists, social workers, and clinical psychologists should be trained? He can scarcely admit that they should be trained at all! We simply do not know what functions such practitioners ought to be performing, what techniques they should be trained to use, what special talents they ought to have. We have got to face the fact that we do not know how to deal with most of the people crippled by mental disorders, other than to provide them with an understanding friend and a bottle of pills. If someone does know how to produce desirable, permanent change, he has not succeeded in demonstrating the fact by means of any scientifically acceptable procedure. This is why I say that the problem of manpower shortages in psychiatry, psychology, and social work has no necessary relationship to the problem of manpower availability. If we know of some effective treatment methods, we will know what kinds of manpower are needed. And it may turn out that we do not want psychiatrists, psychologists, or social workers at all.

Yet, in spite of our knowledge that new methods must be tried, new concepts employed, the entrenchment of tradition continues. In my State of Oregon, for example, the head of the Mental Health Division, a psychiatrist, has adopted the standards of the American Psychiatric Association as *the* standard to be employed in Oregon's community mental health centers, thereby effectively blocking any form of imaginative staffing arrangements. It is as though a demonstration of the ineffectiveness of the traditional psychiatric team approach is not sufficient to demand flexibility in staffing. One must prove beyond doubt the success of some alternate treatment method as well! One hopes that the experience of Oregon is not being repeated in other states, but even this seems forlorn.

Since I am playing devil's advocate today, I should mention a third point. I am a research psychologist, and I divide my time between research and the administration of a research institute. A great deal of noise is made about the importance of research, and I believe in it wholeheartedly. But I will insist that the present emphasis is grossly exaggerated, and not at all addressed to our needs. An atmosphere is being created within our institutions, our hospitals, our private clinics, and even in individual practice, wherein research is elevated in stature above every other aspect of professional life. One can no longer even ask his patient the time of day without wondering whether he shouldn't be doing some research on the question.

We need research in mental illness. We need much more than is presently being supported. We need to double or quadruple the federal budget for research. But we do not need to have research done in facilities that are not equipped for research; we do not need to have research done by people who lack the intensive training for research; and we do not need to have the research literature cluttered with studies or reports that are ambiguous, unsound, poorly controlled, unsophisticated, or totally unrelated to the basic issues or problem areas that remain. The journals can, of course, stand to have a percentage of their pages filled wit trash, and clinics and hospitals with healthy budgets can afford to turn space and equipment over to their staffs. But in a manpower shortage, where anxiety-ridden or suicidal patients have no hope of finding treatment, how can we justify encouraging thousands of possibly good therapists to reduce their caseload in order to do possibly bad research?

This brings me to my next point, which concerns the distribution of mental health manpower throughout the United States. I was disturbed, on reading the papers for this volume, to find scarcely a thought relating to the problem of geographical distribution. When I was last in southern California, I picked up the directory, just for fun, to find out how many practicing clinical psychologists there were in Los Angeles County. There were not many, but the surprising thing was their location, for more than 34 percent of the clinical psychologists practice in Beverly Hills! Los Angeles County is a very large county. It contains a population equal to that of the entire State of New Jersey and a larger area than that of Connecticut, but more than 34 percent of the clinical psychologists serve only one-half of 1 percent of that population through their practice in Beverly Hills. And psychiatrists displayed a similar pattern. Now in what ways are we providing manpower for mental health needs of our people, if the products of our universities and medical schools are going to set up practice in Beverly Hills? What kinds of treatment are going to be provided for people living in the rural areas of the country?

The AMA commented on this very problem just last month in raising opposition to the establishment of regional medical complexes for heart disease, cancer, and stroke. According to the AMA, the proposed legislation "would have the effect of stimulating an untoward emphasis away from local practice and towards medical centers. The rural area, one which is alleged as needing an upgrading of medical care in [illegible] three named diseases, is likely to most suffer. . . . [illegible] added funds provided for research . . . and with all the attendant prestige, more physicians will be lured to the centers and away from general practice in rural and semirural areas." Mental health is no different, and the emphasis both on research and on the community mental health center, under PL 88-164, will accelerate the movement of mental health personnel to urban areas, at the expense of a great bulk of the population.

Basic scientific facts are totally lacking concerning the problem of distribution of trained personnel. We can only guess as to the rate of migration to urban areas, and to my knowledge, the team of our own scientists, at Oregon Research Institute, is the only group that has attempted to assess the relative attractions of various job incentives, such as salary, research opportunities, *and* geographical location for mental health workers. It should be obvious that much more needs to be known about this problem in assessing manpower needs for the future.

This short review has not pulled punches, and it will be greeted neither with enthusiasm nor with friendliness. Perhaps its tone is too harsh, and some of its conclusions may be unwarranted. But with millions of people becoming increasingly concerned about progress in mental health, and billions of dollars about to be diverted to the effort, the unpopular views must be expressed. I sincerely hope that they will be heeded. For the stakes are high, and it is not too late to retrench ourselves for a serious and intensive effort at solving the fundamental problems. If the programs envisaged by the federal government are launched in advance of such planning, we will find ourselves with a well-entrenched establishment of mental health centers that contain the seeds of their own stagnation, failing, as they might, to be responsive to the real needs of our diverse population.

COMMENTS ON THE MANPOWER SHORTAGE

by

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These papers collectively present some notions regarding the professional manpower shortages and particularly regarding the mental health manpower shortages which are well worth putting down in a series such as this.

In the first place, they present the awesome dimensions of the shortages and point up the futility of some of the false optimism and naïveté that lulls some of us into complacency. There simply are not sufficient professionals to go around. Further, the shortage is almost certain to become worse in some professions. New approaches to the problem must be developed. No responsible leader in the field can ignore this aspect of mental health programming.

Dr. Cavanaugh has given us a scholarly presentation to the problems and possible approaches to further research in the precise dimensions of the problem. As he points out, some of our assumptions based on gross data alone have led to claims of shortages that were more apparent than real. In other cases serious shortages have been masked by averaging of figures for entire states. Much more careful and detailed study is needed.

Other papers have given us suggestions for ways to "do something" about the shortages. Some of these suggestions have been made before, such as the more active recruitment of women, of Negroes and other minority groups, and of older persons, from middle age to retirees, who still have much to contribute. These certainly need repeating—and heeding!

Other suggestions, while also made previously, have been elaborated upon here and deserve special comment.

The idea of using college youth and other youthful volunteers has great merit. In many hospitals they have brought a creative enthusiasm and ability to relate to patients that is almost beyond the realm of possibility for "professionals." This article perhaps overstates the case when it implies that youthful enthusiasm is virtually all that is needed, however.

The proposal for a new kind of mental health worker is also not new, but this is a new exposition of what the training curriculum might include. The proposal seems to be a bit biased toward a kind of middle-class private practicing psychotherapist. While there is need for persons of this kind, there would have to be modifications for other areas of service.

Dr. Albee's presentation of the problems posed by the disease model in mental disorder is also not new, but he has developed it further than most. It occurs to me that if we had discarded the disease model for all "functional" emotional disorders at the turn of the century, we would still be "retraining" paretics with social learning theory. It is my opinion that schizophrenia and manic-depressive psychoses most likely have much more basis in physiological dysfunction than Dr. Albee will allow.

Nevertheless, granting that his theories apply to neurosis and some other disorders, where will he get the manpower to retrain these persons according to social learning theory? We are presently very short of psychologists, educators, social workers and others who might do that job, and who, in fact, very often do this kind of thing now.

A major facet of the manpower shortage which was only mentioned, but not discussed, is manpower utilization. This deserves special attention. There are many areas of our present programs in which we are wasting our existing manpower. Rigid schedules, bureaucracy, tradition, and lack of organization for efficiency are very common manpower wasters. There has been very little written anyplace about manpower utilization.

In overall recruitment I am impressed with a proposal Doctor Albee made in his book, *Mental Health Manpower Trends,* that we attempt to increase the entire professional manpower pool. This would involve studies of career motivation together with a major effort to induce junior high school students of ability to make the course decisions that will lead to college and professional careers. A great many of these youngsters are being "lost" now because of decisions to study "business" or mechanical trades at the junior high school level.

There surely are problems in trying to interest an eighth grader in his future career patterns where his or her immediate objective is either to emulate the current high school football hero or to date him. But it seems we should make the effort. Actually, it wouldn't take very many positive decisions in favor of mental health careers to solve much of our problem, for the need is not nearly so great as for scientists in general, teachers, etc.

A COMMENTARY ON THE MENTAL HEALTH MANPOWER PAPERS

by

Philip E. Ryan,

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The papers contributed to the Mental Health Manpower Study leave no doubt that manpower problems in general are exceedingly complex and inextricably tied to many forces in our society. One point that is noted repeatedly is that most professional fields are faced with similar manpower problems and that solutions must be sought primarily on broad manpower issues and, only to a lesser degree, on the unique problems of each individual field or profession. To paraphrase a familiar line, "No professional field is an island."

This broad outlook on manpower problems is expressed well in *Action for Mental Health,*[1] which reports Albee's observation that great stress needs to be placed on increasing the pool from which is drawn the persons who will fill the ranks of all the professions. This obviously points to the need for salvaging the lost talent of a high percentage of our capable youth who do not enter higher education. The meaning is clear too that higher education in general will have to be expanded.

The manpower study papers point to the futility of satisfying manpower needs through recruitment from existing pools of professional persons. A good example is given of the difficulty of obtaining a satisfactory number of psychiatrists from the existing pool of physicians when there is a shortage of medical schools and a need for additional physicians to serve an expanding population. To a lesser degree, the same general conditions exist for other professions from which mental health manpower is drawn.

The mental health field shares with many other professions the problems of the information explosion, making new demands for more comprehensive training programs and for additional personnel to utilize expanding knowledge. But the mental health field is also faced with a virtually unique situation since it is in the throes of a revolution in the care of the mentally ill. The new opportunities to provide services in the community rather than rely almost exclusively on isolated state institutions for treatment require a multiplication of competent manpower with new skills.

As one author stated, we may be in a breakthrough already, while we are still awaiting one.

At the same time state plans for comprehensive community mental health services, federal support for construction and staffing of comprehensive centers, medicare, and insurance and prepayment plans are all making mental health services more available and creating greater public demand. Under these circumstances it appears that from the standpoint of manpower we need to run twice as fast just to stand still.

The exciting and rapid changes in the mental health field have forced administrators to look for new answers to manpower problems. Fortunately, there is a vast amount of research and demonstration in the field and new ways of recruiting, training and utilizing personnel are being explored.

Bold and imaginative ideas have been proposed for new mental health occupations. Kubie offers the suggestion of a new discipline, the nonmedical psychotherapist, and describes a full training program. In the joint commission report, mention is made of the French *educateur* as a member of the treatment team, and in this country similar employees have been trained. Experimentation of this kind might very well serve to augment the total number of persons who now come from the traditional professions.

On the other hand, there is a need to explore the possibility of programs more in line with the traditional professions by establishing more positions of social work aides, nursing aides, recreation aides and occupational therapy aides. Too often where aides are employed they receive some training but have no opportunities for growth to full professional status. The appointment of aides with potential for becoming full-fledged professionals and then providing this training through fellowships and in-service instruction might serve as a method of recruiting new personnel to existing professions.

As newer treatment and rehabilitation procedures develop there will be a consistent need for in-service and refresher training in order to get the maximum use of current manpower. The prospects are that staffs of mental health facilities will be spending more time learning than ever before, and this generally will be a good investment of time and funds. To stint on this will only lead to inferior, static programs and will prove to have been "penny wise and pound foolish."

While the mental health field should help in the solution of broad manpower problems affecting all fields, it is strongly committed to meet the needs of the large numbers of mentally ill persons. There are some special mental health considerations which are well stated by Blain:

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[1] *Action for Mental Health.* Final Report of the Joint Commission on Mental Illness and Health. New York: Basic Books, Inc., 1961.

"In the total science and health field, psychiatry and mental health present the greatest national challenge, they have inherited the greatest load of uncured people, are subject to popular prejudice and ignorance, have the greatest professional shortages. They are distinguished by having a major involvement in emerging social problems like overpopulation, urbanization, automation, discarded and displaced persons, the deprived and suppressed, delinquency, explosions of violence and all that goes with poverty. As public health improves, people live longer but adjustment problems increase. Psychiatry is growing in demand while some medical specialties are shrinking and changing their direction."

A major factor which has placed the mental health professions in a decidedly disadvantageous position in comparison with other fields is the stigma attached to mental illness. This stigma and the long history of rejection of the mentally ill by the public have made the field an unattractive one. The poor prognosis of large numbers of patients in overcrowded, and in many cases scandalously inadequate, institutions did not attract many mental health workers. Too often this picture still persists in the minds of many potential candidates for the mental health occupations. The need now is to portray mental health career opportunities in a light consistent with new developments. Therefore, it appears proper and necessary to conduct a widespread program of information and education, directed particularly to young people.

Toward this end, mental health associations affiliated with the National Association for Mental Health, and in cooperation with professional associations as well as with other organizations in the field, are engaged in a nationwide mental health careers program. The purpose is to convey an accurate picture of the field and the qualifications needed by persons employed in it. This program is fundamentally informational and educational and, on this premise, does not seek to lure young people without their having considered a wider range of occupations. In this respect and in others, the program has sought to follow principles advocated by school guidance counselors.

It seems that not enough has been said in the submitted papers, or elsewhere for that matter, about the utilization of professional persons whose major concerns are other than mental health. These persons have unique opportunities in the course of their regular duties and responsibilities to perform a number of vital mental health services. Among such professional persons are general practitioners of medicine, clergymen, public health nurses, teachers, public welfare workers, union counselors and vocational rehabilitation counselors. It is paramount that the respective roles of each, with regard to their potential function in detection, prevention, treatment, and rehabilitation, be fully explored.

Resources for training, formal and informal, in schools and on the job, must obviously be greatly expanded. This is why the National Association for Mental Health has encouraged the development of training programs and has consistently advocated larger appropriations for the training programs of the National Institute of Mental Health.

August 1965.

CAREER DEVELOPMENT THEORY AND THE MANPOWER SHORTAGE

Some Comments on the Mental Health Manpower Study Papers

by

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A total of six devices have been suggested, by the authors of this collection of papers, for alleviating the mental health manpower shortage. They involve a variety of assumptions as to the causes of the shortage, and varying degrees of optimism as to the possibility of effectively using the devices. They focus sometimes on manpower, sometimes on career development.

The basic manpower production device of increasing the capacity of the medical schools as now organized is virtually dismissed by all contributors as unpromising. In some cases this appears to be because of the assumption that monopolistic attempts at limiting supply are too powerful to be fought, in others because of the logistical problems of rapidly tooling up for greater production. The falseness of the first basis for dismissing this possibility is perhaps best illustrated by the passage of the Medicare Act despite AMA opposition: if the public really wants greater productivity by the medical schools it can legislate it. The second obstacle is more real, but one may at least ask whether the current rate of expansion of medical education really does test the limits of our capacity to tool up.

A second suggested device is the tapping of new sources of manpower. This does imply that additional manpower can be accommodated by the medical schools, and contradicts the assumption that they cannot greatly expand. Women, conspicuously absent in American medicine but more numerous in certain other countries, are suggested as one source. The idea that married women can be encouraged to keep active on a part-time basis even while child-rearing, and encouraged to return to the labor market afterwards by the making of adjustments in working conditions which recognize the dual loyalties of married professional women, is one which fits all that has recently been learned about the career patterns of women. They are a source of manpower, their early work careers can be meaningfully related to their later work careers after interruption, and special encouragement is needed if this is to be done effectively. We need career guidance materials on "Planning Your Interrupted Career," aimed at the woman college student who has scientific and professional interests but also knows that she is likely to marry.

The suggestion that the medical profession be broken up into a number of related professions is unconventional enough to guarantee that it will be strongly and widely opposed, but it nevertheless deserves serious consideration. We are all familiar with the able and well motivated undergraduates who change from a premedical program to a major in physiology, psychology, or some related field, unwilling to devote as much time to subjects which are irrelevant to their goals as is now necessary in order to obtain the M.D. degree: they see the Ph.D. as a more relevant program, leading more directly to an appropriate goal. We are all aware of the nonuse of their medical education by M.D.'s in some specialties, and of the limited use made of it by many others. The Brode and Kubie suggestions therefore seem particularly constructive. Tradition, of course, makes it difficult for a highly institutionalized and therefore rigid profession to evolve. But evolve it somehow will, by design or otherwise.

The proposal to take mental health out from under medical control by recognizing that its subject matter is maladjustment rather than disease, and that the relevant disciplines are social and educational rather than biological and medical, is of course as old as Freud but as revolutionary today as Freud's other ideas were 60 years ago. When the interpersonal nature of emotional disturbance is recognized in training as well as in practice, Albee's suggestion may be acted upon, but the weight of monopoly and tradition will have to be much more eroded than they have been to date.

The recommendation, by both Blain and Sanella, that professionally trained mental health personnel play increasingly a supervisory role, multiplying themselves by working through a number of less highly trained semiprofessional, semiskilled, and volunteer workers, is in line with what is already happening in a number of fields. Shortages of personnel and of funds are a great encouragement to experimenting with the possibilities of utilizing less highly trained people under the supervision of the more highly trained, and tradition and monopoly are less likely to interfere with creativity in the devising of new ways of working than they are in formal education.

The notion that much can be accomplished by making mental health personnel out of everyone, which is what Blain seems to propose, does, however, seem too optimistic. Perhaps this is something of an overstatement of what is essentially a sound position; there is still much room for the improvement of interpersonal relations in the home, in the neighborhood, in the school, in the marketplace, and at the place of employment, and if some of this improvement could be effected there would be much less emotional disturbance, much less mental "ill health."

Six major suggestions, each of them viable to a degree, are proposed, one involving greatly expanding medical education, one the modification of the education and employment of women, one the subdividing of the medical profession into several professions, one acting upon the recognition of the social nature of so-called mental health, and two the greatly expanded use of other personnel under the supervision of the professionally trained. Some of the specific suggestions are made with greater numbers in mind, while some, like Kubie's recommendation that personal psychotherapy be required of mental health personnel, can only improve quality while cutting down quantity.

Just how viable these proposals are is now a topic for discussion by sociologists studying the development of professions, or perhaps eventually only by historians a generation hence. As a psychologist working in the field of career development, I should close by examining the issues which are particularly relevant to vocational choice and development.

Several of the authors write of mental health occupations as scientific occupations. But insofar as they deal with interpersonal relations (and this seems largely agreed upon) they are not scientific in the usual sense of that word, not biological, not physical science, occupations. They are, instead, social service occupations. While it is true that some occupations, such as psychology, belong in both the biological science and social service fields, they have shifted during the past generation from the biological toward the social: research in interest measurement has demonstrated this. This means that many of the college students who drop science majors could be salvaged for mental health occupations, as Vetter suggests—but only if it were recognized that these are often social service occupations.

One common reason for college changes of major is the discovery that the biological sciences have lost their appeal: research in the measurement and development of interests has demonstrated that in many boys and young men there is a change of interest from scientific to social during the adolescent years, a change which is related to hormone development. It may come as a shock to some readers, but scientists are, the facts show, immature, for their interests are more like those of 15-year-olds than like those of 25-year-olds. Scientific interest wanes more often than it waxes as boys mature. The age of vocational decision varies greatly from one person to another. The foundations of vocational interests are laid early, interests begin to crystallize in the teens, they develop still in the early twenties, and so far as we now know the best way to insure that they develop fully and stabilize as early as possible is to provide a variety of rich experiences from prekindergarten on.

From the point of view of vocational psychology, the most viable of the suggestions for increasing mental health manpower are three in number: subdivide the profession of medicine, recruit and utilize women, and remove the field from medical control. In these ways specialized biological and more general social service interests will be tapped, and the facts of career development will work for rather than against the manpower supply.

Chapter IV

PSYCHIATRIC EDUCATION

TRAINING DIRECTOR'S VIEWS ON PSYCHIATRIC EDUCATION *and* SOME IMPLICATIONS FOR THE SUPPLY OF PSYCHIATRIC MANPOWER

Results of a Survey

Any evaluation of the psychiatrist's role in the present shortage of psychiatric manpower requires a reassessment of the training programs in this field. A specific program should be evaluated, among other elements, as to (1) the efficiency * of psychiatrists who are trained, and (2) the potential number of psychiatrists who can be trained. As a part of such an assessment, a suvey was conducted in the fall of 1964 among 33 training directors of psychiatric residency programs in California in an attempt to secure opinions on, and share insights into, the effects of psychiatric education on manpower supply and utilization. A mail questionnaire was sent to the 33 training directors, 21 of whom responded. The questionnaire consisted of seven open-end questions, and additional space for miscellaneous comments. Replies to each question are broken down into eight categories of response, summarized below, following a table of respondents by nature of the psychiatric facility and length of residency training program. (See Table 1.)

1. *How do you think the direction of psychiatric training is changing? More specifically, what sorts of changes do you believe will happen in the next 10 or 15 years?*

Following World War II, psychiatric training emphasized the psychodynamic-analytic approach with its concomitant reliance on the one-to-one therapeutic relationship. The present trend, as stated by 20 of the 21 respondents to the question, is toward community mental health centers, short-term therapy, and wider use of ancillary personnel.

One dissenting opinion is stated by the training director of a three-year residency program in a state mental hospital, who feels that psychiatric training is becoming more psychoanalytically oriented, and that the tendency is toward more neuropsychiatry.

This shift in emphasis, toward short-term therapy and community care, brings with it a resultant shift in responsibility. The psychiatrist must frequently serve as a consultant or supervisor for nonpsychiatric personnel in the application of group and family psychotherapy techniques. Psychiatric principles must be modified so that they can be applied to groups and imparted to other professions. The traditional role of the psychiatrist is changing, in that he must become more community oriented. He must "move" out of his office or hospital and become more familiar with the patient's environment as a contributing factor of illness. One training director asserts that psychiatrists are presently receiving insufficient training in awareness of community resources and familial, social, vocational, medical, and interpersonal relationships. It is true that these factors are of increasing importance, and that knowledge of them will soon be necessary to the efficient treatment of psychiatric patients. An emphasis on sociological orientation and public health education can provide the necessary skills for the psychiatrist's new role. In order to attract as many psychiatrists as possible to community mental health service, the clinician's salary should rise from the

Table 1

DISTRIBUTION OF SAMPLE AND RESPONSES, BY NATURE OF FACILITY AND LENGTH OF RESIDENCY PROGRAM

Nature of facility	Three-year residency		Two-year residency		One-year residency		Two-year residency in child psychiatry	
	Sample	Returns	Sample	Returns	Sample	Returns	Sample	Returns
County, state and federal hospitals	15	11	--	--	1	1	1	--
Psychiatric clinics in short-term general hospitals	3	1	--	--	1	1	3	1
Medical centers	3	1	2	2	--	--	2	1
Child guidance clinics	--	--	--	--	--	--	2	2
Totals	21	13	2	2	2	2	8	4

Total sample = 33
Total returns = 21.

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* The efficiency of a training program can be tested on the basis of such variables as: (a) subject matter taught vis-à-vis information actually used by the psychiatrist in his practice, (b) length of training vis-à-vis amount of subject matter to be taught, and (c) type of training vis-à-vis the psychiatrist's role in fulfilling his community responsibilities.

present 40 percent to at least 60 percent of the income of other specialists in private practice.

The need for short-term therapy is evident because of the increasing number of mentally disturbed and the shortage of qualified professionals to provide treatment. There is an increasing dependence on drugs and preventive emergency services. Since ancillary personnel are usually not qualified to administer drugs, psychiatrists must study pharmacotherapy, behavioral illness, biochemistry, and neurophysiology, and become familiar with the etiology of illness. There is greater emphasis in training on the biomedical approach and social restoration than on personality restructuring. The need for systematized followups after short-term therapy is evident. The range of available treatment is wider now than it was previously, and further research relating to outpatient psychotics and short-term therapy offers a hope for more successful prevention and cure.

The emphasis on team effort and ancillary personnel is an integral part of the functioning of the community mental health center. The psychiatrist, psychologist, social worker, and nurse combine their skills and efforts in the treatment of the mentally ill. More probation officers, teachers, ministers, and mature housewives are being trained in psychotherapeutic techniques. In addition to psychiatrically trained ancillary personnel, there is a need for paramedical assistants, aides, ward clerks, secretaries, administration aides, receptionists, lay mental health counselors, and attendants. To train ancillary personnel there should be greater reliance on audiovisual methods and frequent followup evaluations of teaching programs. Due to the wide diversity of potentially available therapists and to the broad scope of treatments, more attention is being given to matching the personality of the patient with that of the therapist and with the treatment of the disorder.

2. *How will these changes affect the psychiatric manpower supply?*

How the shift in emphasis of the psychiatrist's role will affect the manpower supply is a point of issue among the respondents. About one-half of the replies to this question indicate that the number of effective psychiatric manpower hours will increase. (See Table 2.) (An unpublished study indicates that the median number of hours devoted by psychiatrists in all types of practice to direct patient care is 31 hours per week, and that total care devoted to medical practice is 45 hours per week.)

Table 2

OPINION OF EFFECT OF SHIFT IN EMPHASIS OF PSYCHIATRIST'S ROLE

Nature of facility	Increase in effective manpower supply	Decrease in effective manpower supply	No change	No opinion stated
County, state and federal hospitals	8	2	--	2
Psychiatric clinics in short-term general hospitals	--	1	1	1
Medical centers	2	--	1	1
Child guidance clinics	1	--	--	1
Total	11	3	2	5

Training directors from county, state and federal hospitals, in particular, felt that a shift to community mental health services would increase the effective manpower supply. The expected increase in manpower is due, first, to the integration of agencies and the reliance by psychiatrists on personnel in other fields. Second, the length of residency programs will cut the supply for the present, but will increase the supply in the future due to greater effectiveness of those who are trained. Third, the diffuse services and wider availability of community mental health care will attract more medical students into clinical psychiatry than are now attracted by this type of practice. It will be possible for mental health centers to treat the severely disturbed in the home community, which will appeal to many psychiatrists who do not wish to practice in state hospitals. The deemphasis on state hospitals will release more professionals for the new and local services. Finally, through training programs with emphasis on many interrelated factors, more physicians (mainly those in internal medicine and pediatrics) will be attracted to psychiatry. Already, a fair number of general practitioners and specialists are entering the field. With the underscored importance of neurology and biochemistry, more students who are presently oriented towards somatic medicine will also become interested in psychiatry. Although more physicians are selecting psychiatry as a career, the increase is not expected to keep pace with the demand.

About one-seventh of the replies indicate that the shortage of psychiatrists will become more acute as a result of increased psychiatric services. First, the increased number of psychiatric clinics and community mental health centers will call for more trained personnel. Second, participation of psychiatrists in the community, serving as supervisors of ancillary personnel, will further strain the supply. This latter development may even result in an overall reduction of psychiatric manpower. And, finally, present changes may mean more efficient use of personnel, but will probably not increase the number of persons going into psychiatry; they may even decrease the number.

3. *Do you think that the present system of medical education is an efficient one for the production of psychiatrists?*

Differences of opinion exist as to whether the present system of medical education is effective; the replies to this question are fairly equally divided.

Although there are no striking emphases in distribution, it is noteworthy that almost two-thirds of *all* training directors find present medical education to be ineffective. (See Table 3.) One of the primary aims of medical education is to give maturity and wisdom. The recurring encounters of the medical student with the hard clinical and biological facts of life, and the many clinicians to whom he is exposed as possible models of functions in medicine, all lead to a hastened maturation. This kind of maturation seems to

Table 3

Nature of facility	Opinion of respondents		
	Present medical education *is* effective	Present medical education is *not* effective	No opinion
County, state and federal hospitals	5	6	1
Psychiatric clinics in short-term general hospitals	1	2	--
Medical centers	1	3	--
Child guidance clinics	--	2	--
Total	7	13	1

be optimally available because the student sees and deals with suffering, deals with the limitations of physical adaptation, and has to take action which may or may not be successful but which carries heavy responsibility. All of these factors combine to reduce an excessively academic or theoretical position, and neutralize an overly experimental and clinical approach. Psychiatric help afforded to medical students who are in danger of academic failure has proved successful in helping them continue school through an early identification with a mature specialist. Some training, on the other hand, is ineffective in producing a mature understanding of patients and their problems because current techniques emphasize a quick curative process rather than a profound understanding of the person and his disorder.

4. *Is it necessary for a psychiatrist to have the large amount of information about somatic medicine which he presently acquires in medical school?*

Although one respondent feels that the question asked for a biased reply, about one-third of the replies suggest that too much emphasis is placed on somatic medicine. (See Table 4.) Insufficient time and resources, many respondents state, are allowed for a wide selection of electives which could emphasize social and psychological material. The other two-thirds of the replies indicate that somatics should not be deemphasized; a psychiatrist should be a physician first and a psychiatrist second.

Table 4

Nature of facility	Respondent opinion		
	No overemphasis on somatic medicine	Too much emphasis on somatic medicine	No opinion
County, state and federal hospitals	9	2	1
Psychiatric clinics in short-term general hospitals	2	1	--
Medical centers	1	2	1
Child guidance clinics	--	2	--
Total	12	7	2

In this area lie several possible suggestions for the reevaluation of specific training programs. A number of solutions are offered to breach the gap between somatic medicine and psychiatry: (1) Reduce the time spent in neurology, integrate psychoanalytic training and general psychiatric training, and reduce the time spent in these latter two phases. (2) Keep the training general, include community relationships, basic sciences, psychopharmacology, private and public inpatient hospital experience, and clinical experience. (3) Add a rotating internship in a good mental hospital which includes both somatic medical care and psychiatric treatment. (4) Create a balance between the specialties of practice by instituting a school of psychiatric or psychological medicine; define the psychiatrists' domain first, then proceed to educate accordingly. (5) Teach cultural anthropology to medical students as a unifying link between medicine and psychiatry.

5. *What sort of internship would be most valuable in producing persons prepared to enter a psychiatric residency program? To what aspects of medicine should he receive this additional exposure before he enters his field of specialty?*

A rotating internship program has the support of about two-thirds of the respondents, and especially of training directors from county, state and federal hospitals. (See Table 5.) The emphasis within suggested programs varies widely; the program should stress (1) education rather than service, (2) internal medicine, (3) psychiatry, with one month in surgery and four months in internal medicine and pediatrics, (4) pediatrics, public health, legal medicine, research and statistics, (5) neurology and pharmacology, (6) total care of a family, to which the student would be assigned for intensive care, and (7) psychiatric consultations for the organically ill.

Table 5

Nature of facility	Respondent opinion		
	For rotating internship	For other types of internships	No opinion
County, state and federal mental hospitals	9	1	2
Psychiatric clinics in short-term general hospitals	2	1	--
Medical centers	3	1	--
Child guidance clinics	--	2	--
Total	14	5	2

6. *How do you think that psychiatric training on the residency level might be changed in order to increase the supply of psychiatrists, increase their effectiveness, or shorten their training?*

There are two main ways in which psychiatric training on the residency level might be changed to increase the supply of psychiatrists.

First, although almost two-thirds of the replies stated that the training time should not be shortened (see Table 6), a few gave suggestions on how time spent in some phases of the program might be decreased. To begin with, as fundamental approaches: (1) Summer vacations could be eliminated. (2) Train-

Table 6

Nature of facility	Respondent opinion			
	Length of training should NOT be shortened	Length of training should be shortened	Length of training should be increased	No opinion
County, state and federal hospitals	7	1	3	1
Psychiatric clinics in short-term general hospitals	3	--	--	--
Medical centers	3	--	1	--
Child guidance clinics	--	2	--	--
Total	13	3	4	1

ing time might be shortened through the development of a new discipline or profession—doctorate of medical psychology. (3) For those in a residency program of child psychiatry, the training in adult psychiatry could be shortened from three years to two or one, with emphasis on clinical practice. Four replies, on the other hand, suggest that an increase in the length of training would be preferable. (4) The total time required for certification should remain at five years, with training increased from three to four years, due to the pressures on the curriculum of the residency program. An expansion of the program might attract older, capable physicians from other specialties. (5) It is possible that the supply of psychiatrists for public institutions might be increased by a better integration of programs within the State Department of Mental Hygiene. In some instances, the residents in the university rotate through state hospitals during their first year. In this way, the residents become better aware of psychiatric problems as they relate to the community and to the scope of the mental health program.

Second, the type and subject matter of residency programs can be altered to increase the effectiveness of the psychiatrist. (1) Instruction in group and family therapy skills should be increased. (2) Training in the traditional one-to-one psychotherapy must be deemphasized in favor of consultative and community mental health skills, because psychiatrists should be prepared for and capable of giving direction and supervision to the total mental health program.

Psychiatrists need a greater social consciousness which can be gained through a more productive relationship with other disciplines, such as the social sciences, the humanities, and psychology, and other services such as school, social service, rehabilitation, nursing, and medical-surgical divisions of the hospital in which psychiatrists could serve as consultants. More research in child psychiatry, mental retardation, and the environment of the patient should be conducted to find the relationship of mental illness to elements in society.

7. *Do you feel that there are barriers in the present educational system which prevent persons talented in those areas demanded of psychiatrists from entering the field of medicine?*

Some barriers exist which prevent persons likely to be talented in psychiatry from entering medical and/or psychiatric practice, according to the respondents. (1) Pressures and prejudices discriminate against minorities even at early educational levels. (2) Economic realities and the increasing expense of psychiatric training prevent other able students from undertaking the long training program. (3) The educational program itself presents barriers by giving too much biochemistry and requiring an M.D. degree. (4) A negative emphasis is given to psychiatry by some teachers.

Standards should not be lowered, however, because students with varying abilities can often find work as social workers, clinical psychologists and psychiatric nurses.

8. *Might the structure of the mental health team be changed to free the psychiatrist for more useful work?*

According to the opinions expressed, concern with increased efficiency of psychiatrists is growing as supply decreases in relation to demand. Three general proposals suggest methods to increase utilization of existing psychiatrists. (1) Use of ancillary personnel can free some of the psychiatrists' time as well as extend available services. Research into the use of nonprofessionals may direct proper utilization of this resource; for example, persons with a background in nursing, elementary and secondary education, and camp counseling are especially useful in child psychiatry. (2) The psychiatric team approach to treatment is effective because the psychiatrist can serve as a consultant rather than being an integral part of the team. Teams which include a psychiatric nurse should maintain medical orientation and integration with medical services. (3) Psychiatrists should avoid private practice in favor of consultative, administrative, community, social, and public health psychiatry. They should spread their skills to train larger groups, organize and supervise programs, and participate in research, training and group therapy. One reply, however, indicates that psychiatric effort is wasted in areas where psychiatrists have no special competence, such as social deviations of alcoholism, narcotic addiction, and criminal behavior; these areas may be the special realm of the social worker.

With the severe manpower shortage in psychiatry, new methods of training, treatment, and modes of operation must be devised. The answers to the above questions represent attempts to stimulate action in the area of reevaluating psychiatric training programs so that they may be more effective and productive.

One of the respondents, whose reply was received after the foregoing summary had been prepared, submitted a brief paper outlining his views. His comments follow.

THOUGHTS ON PSYCHIATRIC TRAINING

by

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The psychiatrist has inherited the role of the tribal medicine man and is trying manfully to wear it with scientific authority. His world is no longer that of the tribe, however, but a world far more complex, contradictory, and unstable. How is he to be trained for the problematic tomorrow?

The role of the psychiatrist has undergone an evolution unique in medicine. He began as physician to those incarcerated for the grossest mental disorders. He could not cure, but he observed, catalogued, and intervened with assiduous benevolence. The state hospital psychiatrist has in great part continued to act as a social watchdog, deciding who should leave the hospital and when. The role of watchdog does not satisfy the average physician, however; he wants to be a predictably successful therapist. Definitive treatment of the major psychoses is unfortunately still one of his unfulfilled obligations.

Discouraged equally by the recalcitrance of the chronic psychotic and by the unconcern of society for this institutionalized waif, practitioners found themselves tempted to apply Freudian and post-Freudian methods in the more rewarding psychotherapy of the unhappy but solvent neurotic. There is no end, of course, to the numbers of the ineffective, the disappointed, the oversensitive and the suffering. The psychotherapist certainly helps some of these people. He has created certain embarrassments for himself, nonetheless. He has stimulated a demand which he can never hope to supply. His best results are achieved with his healthiest clients. And while comparable successes are claimed for a variety of methods and theories, skeptics insist that the results are often no better than the spontaneous prognosis.

Another temptation besets psychiatry. Much that has been learned or hypothesized from working with the "sick" appears relevant to the problems of the rest of society, healthy or otherwise. The psychiatrist, discovering how individual failures in life stem from a human meshwork which they further entangle, proceeds to share his insights with the parent, the teacher, the jurist and the executive. No matter how sagaciously modest he chooses to remain about his contribution, others plague him for assistance in the solution of their human, all-too-human, difficulties.

By this time the psychiatrist cannot help sensing how far he has moved from his original medical base. Still preferring to regard his medical function as primary, he finds himself involved with psychologists, sociologists, statisticians, priests and philosophers. In his concern with all that ails man, he has returned surprisingly close to the ancestral shaman, now, of course, rendered legitimate by science.

He confronts, in sum, three challenges: to solve the costly and tragic riddle of psychosis, to heal a host of self-thwarted human beings, and to assist the community in the prevention of mental and social pathology. Certain reflections follow immediately. There are not enough psychiatrists to treat the mentally ill individually, and it is not likely that there ever will be. Besides, without new knowledge and better methods, no simple increase in numbers will make more than a palliative difference in the treatment of mental disorder. And without new knowledge, recruitment of psychiatrists will continue to be disappointing. Many physicians will shy away, certainly from state hospital psychiatry, until they are convinced they can match the success and status of the surgeon or internist. In any case, most of the distress and failure that man is heir to will not be resolved by psychiatrists alone, if it can be resolved at all.

In the face of these oppressive but well-recognized considerations, does the psychiatrist have a clear or unique direction to pursue? I think so. It seems to me that he is the sole professional in our society who has undertaken the full responsibility of being simultaneously scientist, humanist, and therapist. Other scientists are essentially not practicing healers. Other healers are essentially not scientists. The scientific background of the psychiatrist tends to be one sided, to be sure, but his medical foundation permits him to accept a total therapeutic responsibility denied even to the psychologist, whose scrupulous scientific training is one sided in a different direction.

If it is true that the psychiatrist does not know enough, and could not meet all the expectations of society if he did, then the implications are plain. To meet his challenges he must be trained not only to treat, but to investigate, to teach, to collaborate, and to supervise. He will need to teach and supervise those who must assist or relieve him, and to collaborate with those without whom his investigations or contributions will be abortive.

The foregoing is of course a commonplace to those in the psychiatric field. The subsequent suggestions are personal opinions offered with all due diffidence.

We cannot count on any great increase in the proportions of psychiatrists to population. Neither should we expect a major abbreviation of training time. Training can be effectively and safely shortened only when a discipline can resort to well-defined techniques for specific purposes. For certain aides or technicians with limited responsibilities, this may be feasible, but not for psychiatry as a whole in the immediate future. We have no final consensus on methods or theory, and are in a discipline that requires maturing of the person in action as much as it does a mastery of subject matter.

Suggestions

1. At the Undergraduate Level
    a. Create a curriculum providing a broad and early preparation for careers in the mental health field. Encourage a comprehensive introduction to the total field before the decision is made to go into "premed," "psychology" or "social science."
    b. Foster the development of a college-trained semiprofessional group to become therapeutic assistants of the psychiatrist or to work with distressed people in any of several fields. Professionals carry only a small part of the mental health workload. Much training is on the job and improvised. The daily care of the hospitalized mentally ill, for example, rests largely in the hands of aides with valiant but rudimentary indoctrination, a state of affairs that would be considered outrageous in a general hospital. The staffing of hospitals and clinics with trained aides and counselors may be more practicable than quadrupling the psychiatrist-patient ratio.
2. Medical Education
    a. Help every medical student to develop his skill in understanding and working with people. The technical aspects of psychiatry are less important and will attract fewer men to the field.
    b. Experiment with limited specialization and "interspecialization." Perhaps the curriculum should be further adapted to the potentialities of certain students who are clearly specialty or research bound. How about starting some gifted students in medical school a year or two earlier in their undergraduate career, with training both in medicine and in some other important field to proceed concurrently for five or six years? At present the student is expected to cram his general education and "culture" into the premedical years. We could use physicians who continue studies in psychology, sociology, mathematics, chemistry, law, biophysics, even the humanities, as their medical training and intellectual maturity advance.
3. Internship

    Continue the emphasis already recommended for the medical student on interviewing and understanding the patient. The intern would learn a great deal from a measure as simple as taking social and developmental histories under the guidance of a practiced psychiatric preceptor. What he could learn from such preceptors in the general hospital about an approach to interpersonal difficulties would stand him and his patients in excellent stead at a later date. Supervised experience on a psychiatric service again would be useful but less important.
4. Residency
    a. Reduce or eliminate time spent primarily in the service needs of the institution.
    b. Aim at an optimum teacher-student ratio for the program, with the fullest use of informal interaction as a teaching medium.
    c. Encourage residents to master factual and theoretical data on their own time, using conferences and discussion periods for assimilation, criticism and testing.
    d. Enrich the resident's experience as teacher, consultant, supervisor, and team leader.
    e. Use more frequent and varied methods of examination, with major attention to performance. Develop examinations which permit interprogram comparison and useful self-evaluation.
    f. Encourage cooperation of state hospital facilities and personnel with university research programs.
    g. Keep the resident in touch with people, problems and ideas outside the conventional limits of hospital and private practice psychiatry.

Chapter V

RESULTS OF A QUESTIONNAIRE SURVEY OF PSYCHIATRIC OPINION IN CALIFORNIA

INTRODUCTION

In the first phase of this study, general comments on the mental health manpower shortage from 380 California psychiatrists were analyzed and discussed. The data presented were obtained from responses to nondirective, open-end questions on the mental health manpower shortage. In the following analysis of more directive specific questions, an additional 10 questionnaires which had been received late were analyzed, so that totals in this portion of the study add to 390. It should be noted that the addition of a relatively few questionnaires does not alter the findings of the earlier analysis. Response rates in this section are shown as percents, with the total number of respondents equal to 100 percent. Since many questions allow for more than one response, totals generally add to over 100 percent. The following analysis is concerned primarily with the recruitment of personnel and the utilization and restructuring of mental health services.

The reader will note that, contrary to the method employed in the preceding section, reproduced from Phase I of the study, the following analysis uses the traditional percentage relationships derived from the replies of all respondents. The reason is that a number of persons encountered difficulties in grasping fully the rationale for the methodology used. For the ease and convenience of what is expected to be a wide range of readership, the change has been made without, we hope, seriously interfering with the nature of the results obtained.

ANALYSIS OF QUESTIONNAIRE TO CALIFORNIA PSYCHIATRISTS

(Phase One)

In early 1964 a questionnaire was sent to a sample of 740 California psychiatrists. The purpose of the questionnaire was to discover areas wherein persons active in psychiatry thought solutions to the mental health manpower shortage might lie. In part, this constituted an attempt to get an idea of the feelings, beliefs, and opinions of the psychiatrists, in order that those who propose steps for relieving the manpower shortage can gain a perspective of what types of ideas would receive support from persons already in the field. It was also hoped that some of the replies might stimulate or present new approaches to solving the manpower problem. Both of these objectives were at least partially fulfilled.

The following special characteristics of the data should be borne in mind by the reader:

(1) These data represent responses to two questions; combining was done because respondents generally answered as though the two questions were only one. The two questions were: "Where do you think the causes of the current mental health manpower shortage lie?"

and

"Without considering the practical difficulties, how would you propose to alleviate current mental health manpower shortages?"

(2) The questions were open-end ones. It would have been possible to construct a closed-end questionnaire, but it appeared that, despite the increased difficulties in coding, more information could be gained from the open-end questions.

Because of this characteristic of the questions, the coding was based entirely on the nature of the responses. The difficulty in presenting the data may be illustrated by an example: an assertion such as "32 percent of the psychiatrists felt X" has a different meaning in this questionnaire than it would in a questionnaire wherein respondents were asked closed-end questions. In the latter type of questionnaire there would be a finite number of mutually exclusive categories; this is not true of open-end questionnaires. In a closed-end questionnaire the statement, "32 percent felt X" implies that "68 percent did not feel X"; this second measure is not implied in an open-end query.

Two descriptive statistical measures have been used: the rank order of a category and the number of responses per hundred psychiatrists.

The sample was analyzed according to type of practice in three different ways: (1) nature of professional medical activities, (2) type of professional practice, and (3) source of professional income. Some subcategories were excluded when numbers of respondents were insufficient. The category with the smallest number of respondents was "teaching," with 24 respondents, followed by "preventive medicine," with 36 respondents. All other categories had relatively large numbers of respondents, with the range extending to "direct care of patients—not in private practice," with 234 respondents.

Three hundred eighty questionnaires were coded for replies to these two questions. The remainder of the data gathered from responses to other questions are now being analyzed. Whether respondents were influenced in their answers to these two questions by the more directive questions which followed has not been ascertained.

It should be noted that responses shown in Tables 1 through 5 are not mutually exclusive, since most respondents noted more than one suggestion as to causes and/or proposed solutions. Hence, the percents do not total 100.0 percent when added vertically, but rather when totaled would indicate average numbers of suggestions or total criticisms from respondents within the group.

Over all, as shall be seen in the course of the analysis of the data, there was a slight difference in emphasis between what may generally be categorized as psychiatrists in private practice versus those not in private practice. Generally, the psychiatrists' remarks can be divided into a few major categories. One was "general comments," in which the respondents either questioned whether or not there was a shortage, stated that the problem would solve itself, neglected to answer, or stated that there is no solution. The number of respondents in the category "no answer" was quite low. Table 1 shows that only 19 out of the 380, or 5 percent, provided no answer. Another category of response is composed of statements about the shortage itself. These included affirmations of the questionnaire reference to a shortage and comments on the nature of the shortage, such as, "there is a shortage only in institutions," or, "the shortage is only in the nonprofessional groups. Table 1 also compares categories of psychiatrists according to their frequency of response in this manner.

As may be seen in the table, there are some variations among the different groups in the response that there is no shortage. The range is from 0 percent to

Table 1
RESPONSES PER 100 PSYCHIATRISTS—GENERAL COMMENTS

	Direct care of patients—private practice	Direct care of patients—not in private practice	Teaching	Fee for service only, individual practice	Fee for service and part-time salary, individual practice	Full-time salary, but some fee for service—individual practice	Full-time salary only	Full-time specialty practice	Resident or fellow	Other full-time staff in hospital service	Full-time medical school faculty	Preventive medicine	All psychiatrists
There is no shortage	3.06	1.28	2.22	5.00	0.00	0.00	1.79	2.94	2.33	0.79	2.78	0.00	1.84
There is no solution	1.02	0.00	2.22	0.00	3.70	1.85	0.00	0.98	0.00	0.00	2.78	0.00	0.53
The problem will solve itself	1.02	0.85	2.22	0.00	3.70	1.85	0.90	0.98	2.33	0.00	2.78	0.00	1.05
No answer	3.06	5.98	4.44	5.00	0.00	1.85	6.73	2.94	5.82	5.55	5.56	8.33	5.00
Questions whether shortage exists, but does not contradict its existence	4.08	1.71	4.44	6.67	0.00	1.85	2.24	4.90	1.16	1.59	2.78	4.17	2.63
Agrees that shortage exists—does not specify or suggest solution	4.08	6.41	8.89	5.00	3.70	3.70	6.73	3.92	5.82	5.55	5.56	8.33	6.05
The shortage is only in institutions	11.22	5.56	4.44	8.34	18.52	7.41	4.93	10.78	4.65	7.14	11.11	8.33	6.84
Shortage exists not at all levels, but at the professional levels only	9.18	8.55	2.22	6.67	14.82	7.41	7.17	8.82	5.82	10.32	2.78	4.17	7.89
No shortages in core groups among mental health workers	4.08	1.28	4.44	1.67	7.41	5.56	8.97	3.92	1.16	1.59	2.78	0.00	2.37

5 percent, with the average for the whole group being 1.84 percent. Since the 5-percent response was from those psychiatrists in private practice on a fee-for-service basis, it will be interesting to see how this group responded in other categories.

The next response in which fee-for-service psychiatrists are appreciably higher than the total group is that response questioning whether a shortage exists (although they do not definitely negate the idea that there is one). More fee-for-service individuals are also of the opinion that no shortage exists in the four core groups. All these differences might lead one to suspect that persons in fee-for-service, individual practice, do not have the number of patients that those in institutional work have. It is interesting to note that none of the psychiatrists who derive a portion of their income from salaried practice stated an opinion that no shortage exists.

Judging from the response rates indicated in the category "no solution," it is clear that most groups of psychiatrists feel that there are solutions, or, at least, do not feel sufficiently pessimistic to state the opinion that none exists. In the category "the problem will solve itself," the range is quite small, and no subgroup differs significantly from the group as a whole.

Over 8 percent of the persons in preventive aspects of psychiatry did not respond to either of these two questions. This might be attributed to the fact that they are not directly involved in the day-to-day manpower problem that other psychiatrists may encounter, although there are a number of persons who feel that the solution lies in preventive psychiatry itself.

In the analysis of the category "the shortage is only in institutions," it can be noted that there are a number of variations from the group as a whole. Over 11 percent of those in private practice—direct patient care—are of this opinion. Nearly 18.5 percent of those whose major source of income is fee-for-service, but who receive some income from salaried work, agree. Nearly 11 percent of those in full-time specialty practice and over 11 percent of those who are full-time medical school faculty members feel that the shortage is only in institutions. In contrast, only 7.4 percent of those who are full-time hospital staff feel this to be the case. A possible explanation is that only those persons whose work is not confined to institutional practice would be aware that the shortage is not universal (if indeed it is not).

In the next category, "shortage on professional level only," the outstanding difference from the group as a whole is shown by those who derive most, but not all, of their income from fee-for-service. They also form the group which feels most strongly that the shortage is *not* in the professional fields. The data would lead one to believe that this is a heterogeneous group, but that its members are of this opinion more often than are other psychiatrists. The psychiatrists in this group feel, overall, that the problem is one of distribution rather than of shortage.

The next major category is composed of those responses which suggest that the reasons for or the solutions to the manpower shortage lie in the education and training of mental health personnel. (Table 2.) Looking at all groups in this table, it can be observed that responses were more frequently in this general category than in the previous one. A large number of respondents expressed dissatisfaction by stating that the training or educational programs were inadequate without making further comment. Three of the groups of psychiatrists were above average for the group as a whole on rate of responses in this category. The three groups were: those whose professional activity was teaching; full-time medical school faculty; and those engaged in the practice of preventive psychiatry. This probably implies that only those who are connected with teaching are fully aware of its

Table 2
RESPONSES PER 100 PSYCHIATRISTS—TRAINING AND EDUCATION

	Direct care of patients—private practice	Direct care of patients—not in private practice	Teaching	Fee for service only, individual practice	Fee for service and part-time salary, individual practice	Full-time salary, but some fee for service—individual practice	Full-time salary only	Full-time specialty practice	Resident or fellow	Other full-time staff in hospital service	Full-time medical school faculty	Preventive medicine	All psychiatrists
There are inadequate training programs for mental health workers, no other specification	12.24	7.26	17.78	15.00	7.41	11.11	8.52	11.76	3.49	7.94	22.22	33.33	9.74
Training programs take too long and are too expensive	1.02	2.99	0.00	1.67	0.00	1.85	2.69	0.98	3.49	3.17	0.00	0.00	2.10
The training period is too long	10.20	11.11	4.44	8.34	18.52	5.56	11.21	9.80	13.96	8.73	2.78	12.50	10.00
Training is too expensive	0.00	0.85	0.00	0.00	0.00	0.00	0.45	0.00	1.16	0.00	0.00	0.00	0.26
The shortage is attributable to a poor educational system (not including medical school)	5.10	8.12	6.67	8.34	0.00	7.41	8.07	4.90	10.47	7.14	8.33	4.17	7.10
Too many restrictions on those who could be trained for mental health fields	4.08	2.99	4.44	5.00	0.00	0.00	4.04	3.92	2.33	3.97	2.78	0.00	3.42
Psychiatry instructors in Medical Schools do not do enough to attract potential psychiatrists	6.12	4.27	11.11	6.67	7.41	11.11	3.14	5.88	3.49	13.97	13.89	8.33	5.53
Departments of Psychiatry in Medical Schools could get more people into Psychiatry	7.14	7.26	11.11	6.67	7.41	20.37	5.83	6.86	2.33	11.11	13.89	12.50	8.16
There should be early exposure to psychiatry in medical schools	1.02	3.42	4.44	3.33	0.00	3.70	4.93	0.98	1.16	3.97	2.78	8.33	2.89
There are inadequate training programs for ancillary personnel	13.26	7.69	8.89	8.34	18.52	9.26	7.62	12.74	6.98	7.94	8.33	8.33	9.21
There should be increases in programs to provide financial aid to trainees	10.50	10.26	8.89	8.34	7.41	20.37	7.62	9.80	10.47	10.32	11.11	8.33	10.00
Medical students and graduates indicate a fear or anxiety of entering mental health fields	6.12	1.28	0.00	10.00	0.00	1.85	0.90	5.88	0.00	1.59	0.00	4.17	2.37
There are inadequate training facilities (professional)	2.04	7.26	11.11	3.33	0.00	7.41	7.62	1.96	8.14	7.14	13.89	4.17	6.32

inadequacies. It is interesting in this connection to note that those who are apparently most content with the training and education of psychiatrists are the residents and fellows, who may have a less adequate perspective than any of the other groups, since they are still in the training process.

The number of persons who express discontent with both the length and the expense of training is low. Among the subgroups, the range is from none to 5 percent of respondents, with an average of 2.1 percent. When those who mention only the length of training are considered, the number of increases considerably. The average here is 10 percent, with a high of 18.5 percent and a low of 2.8 percent. Only one group is significantly higher than the average: those whose source of professional income is fee-for-service and part-time salary, in individual practice. As the responses are reviewed, it will be seen that several times this group, inexplicably, exceeds the average on individual issues.

The two groups which scored lowest on "length of training" were the medical school faculty and the teachers. Teachers probably scored a little higher because they included all the faculty members and persons such as staff physicians in training institutions. Very few of the psychiatrists seemed to think that expense of training was an important variable. A relatively large number ventured the opinion that the educational system (not including medical school) was at fault. It is interesting to note that those who were most emphatic about this were the residents and fellows, those who are closest in time to the educational system. The psychiatrists in fee-for-service and part-time salary again differed significantly, but this time they were below the average of the entire group.

There were a few who proposed that restrictions placed on those who could be trained (such as against liberal arts students, women, and minority groups) accounted for the shortages. The average was only 3.4 percent and there were no significant variations.

Although the number of persons who felt that teachers of psychiatry were at fault or might more effectively recruit medical students for psychiatry was not particularly large, several groups noted such criticisms with considerably greater frequency than did the average respondent. Among these groups were the following: teachers, psychiatrists who work on a full-time salary basis but have some income from fee-for-service in individual practice, full-time staff in hospitals, full-time medical school faculty, and psychiatrists in preventive medicine. It is interesting that the teachers of psychiatry were generally more critical of themselves than were others.

A large number of respondents criticized departments of psychiatry. The highest response rate group was composed of those in individual practice with full-time salary and some fee-for-service. The group least critical of psychiatry departments was that composed of residents and fellows who, it might again be noted, may lack perspective on the problem. Only a few persons suggested earlier exposure in medical school. (The highest number were the teachers.)

The group with the highest relative frequency in noting proposals concerned with the training of ancillary personnel was again that group whose primary source of income is from fee-for-service but also hold salaried positions.

Many psychiatrists felt that financial aid programs would help alleviate the problem. The only group which differed significantly from the average for the entire sample was the full-time salary with some fee-for-service group; the relative rate among this group of respondents was twice as high as for the total group.

A few respondents suggested that fear and anxiety concerning the profession on the part of potential mental health professional personnel could be counted as a large factor. Another few felt that inadequate training facilities constituted a problem; teachers and medical school faculty members indicated this problem considerably more often than did other groups.

The next major category of response is those answers which may be classified as complaints or suggestions about utilization of existing mental health personnel and facilities. (Table 3.)

Table 3 includes those responses which fall into the category of "utilization." The overall response rates in this category are similar to those in "education and training."

Nearly 10 percent of the respondents suggested a reorganization of existing personnel or a redistribution of personnel and facilities without offering any more specific suggestions. Those subgroups with response rates higher than those of the total group were full-time hospital staff members, those engaged in teaching, and the full-time medical school faculty. This would appear to indicate that those most directly involved with institutions indicate a greater awareness of and concern with the problems of reorganization and redistribution. It would appear incongruous that those in preventive psychiatry should place so little emphasis on this variable; however, by noting their high response rate within the next category, "utilization of existing personnel," those in preventive psychiatry may be seen to have placed about the same amount of emphasis on this aspect as do other groups. In effect, then, one can see that respondents in preventive psychiatry who noted this problem area tended to be more specific in its delineation than did respondents in other subgroups.

It can be seen that "distribution of existing personnel" is a variable which parallels the first category of response on this table.

The category "poor delineation of roles and responsibilities" received only a 9 percent response rate over all. Noting the two extremes, the lowest rate being among psychiatrists with fee-for-service and part-time salary (individual practice) and the highest rate among medical school faculty and other full-time staff in hospital service, it would appear that the pattern-

Table 3
RESPONSES PER 100 PSYCHIATRISTS—UTILIZATION

	Direct care of patients—private practice	Direct care of patients—not in private practice	Teaching	Fee for service only, individual practice	Fee for service and part-time salary, individual practice	Full-time salary, but some fee for service—individual practice	Full-time salary only	Full-time specialty practice	Resident or fellow	Other full-time staff in hospital service	Full-time medical school faculty	Preventive medicine	All psychiatrists
Reorganization of services and redistribution of personnel or facilities would lead to improved utilization	6.12	10.26	13.33	3.33	7.41	12.96	9.42	6.86	6.98	14.28	13.89	0.00	9.47
Suggests improving utilization of existing personnel	9.18	13.25	15.56	8.34	14.82	14.82	13.45	9.80	11.63	13.49	16.67	16.67	12.37
Distribution of existing personnel is one of the causes of present shortage	8.16	6.84	11.11	8.34	7.41	12.96	5.83	7.84	4.65	10.32	13.89	0.00	7.89
Suggests better delineation of roles and responsibilities	5.10	10.26	11.11	6.67	0.00	11.11	11.21	4.90	5.82	13.49	13.89	8.33	8.95
Suggests more efficient usage of ancillary personnel	8.16	14.96	17.78	10.00	7.41	14.82	15.69	8.82	13.96	17.46	16.67	4.17	13.42
Suggests short term, limited goal treatment course for patients	5.10	8.55	6.67	5.00	0.00	7.41	8.52	5.88	8.14	8.73	2.78	8.33	7.37
Suggests more cooperation between psychiatry and other associated fields	18.37	10.68	20.00	16.67	29.63	14.82	28.25	17.64	8.14	13.49	19.45	4.17	13.69
More usage of group (including family) rather than individual therapy would utilize personnel better	6.12	9.40	8.89	8.34	0.00	12.96	8.97	5.88	6.98	11.11	8.33	12.50	8.68
More preventive treatment would utilize present personnel better	8.16	9.40	13.33	8.34	7.41	11.11	11.21	6.86	10.47	8.73	13.89	12.50	9.47
Suggests more use of drugs	2.04	4.27	2.22	1.67	3.70	1.58	4.93	1.96	3.49	5.56	2.78	0.00	3.47
Suggests walk-in clinics for emergencies	6.12	6.41	8.89	8.34	0.00	1.58	8.52	5.86	6.98	1.59	5.56	4.17	6.84
Increased emphasis on community services would utilize personnel better	17.35	17.52	35.56	13.34	18.52	24.08	19.28	18.63	12.79	20.63	36.11	12.50	19.47
Suggests use of part-time personnel in institutions	2.04	4.70	4.44	1.67	0.00	5.56	4.93	1.96	6.98	3.97	5.56	0.00	3.95
More utilization of nonpsychiatric physicians would relieve the pressure on psychiatrists	3.06	11.96	6.67	3.33	3.70	3.70	8.52	2.94	6.98	8.73	8.33	4.17	6.32
More government support of mental health	8.16	11.96	4.44	8.34	11.11	5.56	12.55	7.84	12.79	12.70	5.56	4.17	10.00

ing of scores here is attributable to the fact that psychiatrists in individual practice will have delineated their own roles, and are likely to be more content than institutional psychiatrists.

The category "more efficient use of ancillary personnel" received a substantial response rate—over 13 percent. The variations from this overall response rate appear to indicate that psychiatrists in institutional work and connected with hospital administration are quite aware of any inefficiencies which may exist in the use of ancillary personnel, since it is they who have contact with ancillary personnel, whereas private practitioners who have minimal contact with such personnel are less aware of inefficiencies.

An interesting variation within the category "more short-term limited-goal therapy" is that none of the individual practice psychiatrists who derive their income from fee-for-service and from part-time salary noted that this might contribute to the solution of the problem. Some possible insight into the reason for this was given by one member of this group who works on a salary basis part time because he does not have enough patients in private practice to make an adequate living. If this were true of other members of this group, they would not be concerned with short-term or limited-goal therapy, since they would apparently not be feeling the effects of a manpower shortage.

There was evidently some strong feeling about better cooperation between psychiatry and other associated fields, including clinical psychology, psychiatric nursing, etc. Nearly 14 percent of the total sample suggested this. There were two notably high groups here; these were the full-time salaried psychiatrists and those who derived income from both fees-for-service and part-time salary in individual practice.

Two categories of respondents proposed group therapy (including family therapy) with much greater frequency than did the others. These were full-time salaried psychiatrists who also received some fees for service, and those in preventive psychiatry. It might be noted that since group therapy, particularly family therapy, is often a preventive measure, it is natural that preventive psychiatrists would tend to recommend it more often.

Nearly 10 percent of the psychiatrists proposed some measures of preventive psychiatry. Responses were notably consistent among all subgroups.

Most of the other categories in Table 3 were proposed relatively infrequently except for the proposal that there be increased emphasis on community services. This idea seems equally nebulous in the literature as well as among the psychiatrists in our sample, despite the fact that it was the most frequently cited suggestion in the entire realm of maximizing the utilization facilities or personnel currently available.

In Table 4 the responses which fell into the categories "recruitment incentives" and "job attractiveness" are detailed. Five of these were each listed by at least 10 percent of respondents, the other eight with considerably less frequency. Ranked in order of importance the five most frequently mentioned were "poor salaries," "poor public image," "poor working conditions," "lack of prestige among the other specialties," and "unattractiveness of the mental health fields."

Table 4

RESPONSES PER 100 PSYCHIATRISTS—RECRUITING AND JOB ATTRACTIVENESS

	Direct care of patients—private practice	Direct care of patients—not in private practice	Teaching	Fee for service only, individual practice	Fee for service and part-time salary, individual practice	Full-time salary, but some fee for service—individual practice	Full-time salary only	Full-time specialty practice	Resident or fellow	Other full-time staff in hospital service	Full-time medical school faculty	Preventive medicine	All psychiatrists
General unattractiveness of mental health fields discourages potential entries	7.14	14.53	4.44	6.67	3.70	5.56	14.80	7.84	11.63	15.87	2.78	16.67	11.32
Poor working conditions in mental health occupations discourage potential entries	8.16	17.09	15.56	6.67	7.41	24.08	15.24	8.82	18.61	15.87	16.67	16.67	14.47
Poor salaries keep people out of the field of psychiatry	36.73	35.47	33.33	31.67	40.74	44.45	33.63	35.29	36.05	34.92	30.56	41.66	35.53
Psychiatry has a poor public image	20.41	14.96	11.11	25.00	7.41	12.96	14.80	19.61	15.12	15.87	13.89	12.50	16.05
Psychiatry has less prestige than other specialties	11.22	16.24	2.22	10.00	11.11	9.26	15.69	10.78	17.44	15.87	2.78	16.67	13.42
There is too much governmental interference	3.06	3.42	4.44	3.33	0.00	3.70	3.14	1.96	3.49	4.76	5.56	0.00	3.42
Inadequate recruiting programs	4.08	6.84	6.67	6.67	0.00	9.26	5.83	4.90	4.65	9.52	5.56	0.00	6.05
Suggests increased use of recruitment techniques	6.12	5.56	4.44	6.67	3.70	9.26	4.48	5.88	4.65	6.35	5.56	4.17	5.79
Begin recruiting in high schools	9.18	8.55	0.00	11.67	0.00	1.58	8.52	8.82	13.96	9.52	0.00	8.33	7.63
Get increased cooperation from medical societies	0.00	0.42	4.44	0.00	0.00	1.58	0.90	0.00	0.00	0.79	2.78	0.00	0.79
Conduct more research	5.10	0.42	13.33	5.00	0.00	5.56	5.83	4.90	5.82	4.76	13.89	4.17	5.79
Perform recruiting in colleges and/or medical schools	7.14	9.40	8.89	11.67	0.00	12.96	8.52	6.86	4.65	12.70	8.33	8.33	8.68
A public indoctrination program would increase the number of mental health personnel	6.12	7.69	2.22	5.00	3.70	1.58	3.60	5.88	3.49	3.97	2.78	0.00	3.95

By a wide margin, the most frequently mentioned criticism was poor salaries. Within the categories of source of professional income there was an understandable distribution of frequency. Those in private practice were least discontent while those who earned their primary income from salary, but who gained some income from fee-for-service, were most discontent. Those on full-time salaries alone appear less critical than do some other groups.

The distribution of those who express discontent with working conditions is the clearest example of the difference in emphasis between institutional and noninstitutional physicians. The psychiatrists most frequently stating this idea were those on full-time salary but with some fee-for-service income, residents and fellows, and those engaged in direct patient care outside of private practice. Those least frequently stating this idea were those in individual practice deriving either all or most of their income from fees-for-service, along with those private practitioners who engage in direct patient care.

The psychiatrists who most frequently observed that a poor public image was contributory to the problem were those in the noninstitutional groups, while those who least frequently noted this as a factor were those in the institutional groups. Thus it is again possible to see the difference in emphasis between these two major categories of psychiatrists.

Aside from these five problem areas, none of the individual notations concerning recruitment or job attractiveness was mentioned frequently enough to warrant further discussion.

Table 5 shows some miscellaneous points. The second of these, "pertinent but not codable," is a measure of the impossibility of coding completely responses to open-ended questions. Since the overall response rate was four entries per respondent, these figures indicate that only about one response in 25 was impossible to code.

The table also shows that many psychiatrists thought that the core of the difficulty lies in the fact that demand for psychiatric services has increased rapidly in recent years, hence exceeding supply. Finally, it shows that 11 percent of the respondents indicated that a change in the delineation of what constitutes mental health fields would be a desirable development toward the solution of mental health manpower shortages.

Summary Highlights

When grouped into five major categories of responses, i.e., "general comments," "training and education," "utilization," "recruiting and job attractiveness," and "miscellaneous suggestions" (including those responses which were pertinent but could not be coded), it becomes apparent that, overall, there is a slight difference in the reactions to, and opinions about, the mental health manpower shortage between private practitioners and psychiatrists not in private practice. Private practitioners appear, for the most part, to view the problem of a manpower shortage in a broader context than do institutional practitioners, and to recommend more general solutions.

Although it is the consensus of all respondents that a problem does exist (only 1.84 percent of all respondents feel that there is no shortage), fully 5 percent of those psychiatrists in the fee-for-service, individual practice category indicated their belief that there is no shortage. A few respondents on full-time salary with no other source of professional income also indicated that no shortage exists. In contrast, every respondent deriving a portion, but not all, of his income from salaried practice (this group includes psychiatrists practicing part of the time in institutions) agreed that shortages exist.

Such differences in attitudes concerning the possibility of a shortage in mental health manpower appear to indicate that those psychiatrists with relatively few patients, with less experience in handling large numbers of patients, and those closely associated with only the private practice aspect of psychiatry, as well as those associated solely with institutional psychiatry, are somewhat less aware of any shortages which may, in fact, exist. Conversely, those persons whose work is involved with, but not limited to, institutional practice appear to be in the better position to see not only whether a shortage exists, but also in which areas of patient care it exists.

The distribution of those who express discontent with working conditions provides the clearest example of the difference in emphasis between institutional and noninstitutional psychiatrists. The former group lists

Table 5
RESPONSES PER 100 PSYCHIATRISTS—MISCELLANY

	Direct care of patients—private practice	Direct care of patients—not in private practice	Teaching	Fee for service only, individual practice	Fee for service and part-time salary, individual practice	Full-time salary, but some fee for service—individual practice	Full-time salary only	Full-time specialty practice	Resident or fellow	Other full-time staff in hospital service	Full-time medical school faculty	Preventive medicine	All psychiatrists
Increased demand	15.31	14.53	22.22	13.34	22.22	15.82	14.35	15.68	13.96	13.49	22.22	20.83	15.53
Pertinent, but not codable	16.33	17.09	11.11	13.34	14.82	14.82	16.59	15.68	13.96	19.84	11.11	12.50	16.05
Expansion of mental health field concept	6.12	13.25	15.56	1.67	7.41	5.56	19.73	5.88	10.47	13.49	13.89	25.00	11.58

poor salaries and working conditions as major factors contributing to the manpower shortage, while the members of the latter group, having delineated their own roles, are more likely to be content with their positions.

Those individuals most directly involved with institutions indicate a greater awareness of and concern with the problems of reorganization and redistribution of existing doctors, ancillary personnel, and facilities.

Finally, those individuals most closely connected with teaching more frequently recognize deficiencies of their field, including inadequate and too lengthy training programs.

ANALYSIS OF QUESTIONNAIRE TO CALIFORNIA PSYCHIATRISTS

(Phase Two)

Recruitment

One section of the questionnaire pertained to the recruitment of psychiatrists from medical students and from physicians in nonpsychiatric practice. With few exceptions, responses to this question fell into several broad categories, with no obvious difference of opinion evidenced among various groups and/or subgroups of psychiatrists commenting on the subject. Therefore, it was determined that summarizing and abstracting comments from the questionnaires would best preserve the general tone of the responses.

In general, few respondents denied the need for concerted recruitment efforts, although several expressed strong doubts about actively recruiting psychiatrists since this might tend to diminish the manpower pool for other specialty fields suffering from comparable shortages. A small number of psychiatrists expressed the opinion that *any* recruitment program would attract persons ill suited to the profession, especially those with strong anxieties or neuroses and those with no genuine interest in the mental health field. Finally, the need for recruitment was challenged by a number of psychiatrists who think that psychiatry is becoming a more attractive field, particularly to medical students, and that manpower shortages will be solved as the field continues to attract more interest.

A large number of respondents regard residents and practicing physicians as a major source of psychiatric manpower. They felt that many physicians do not enter the psychiatric field because of the expense of additional training. Increased salaries for residents and government stipends and grants should be available for practicing physicians who desire prolonged postgraduate training. A number of respondents expressed an interest in the establishment of seminars and brief, intensive postgraduate courses designed to interest nonpsychiatric physicians in psychiatry. Several psychiatrists emphasized the importance of placing these courses in a dynamic clinical setting.

Another sizeable group of respondents consider poor working conditions in psychiatric institutions a major deterrent in recruiting psychiatric manpower. Low salaries were the most frequently mentioned factor. A more specific criticism was the discrepancy in financial rewards between private and nonprivate practice. A few respondents mentioned administrative policies regarding methods of treatment, the lack of clerical assistance, and inadequate ward facilities as deterrents in attracting psychiatrists to institutional practice. Finally, a considerable number of respondents expressed a desire to see increased opportunities for psychiatric research in governmental institutions.

The preponderance of respondents indicated that medical students provide the major source for recruiting psychiatrists. A few respondents advocated modifying medical school admission policies to accept a larger number of students with a strong interest in the behavioral sciences, thus, hopefully, insuring a larger number of psychiatrists. It was also observed by one psychiatrist that a high percentage of students receiving brief psychotherapy in medical school later become psychiatrists. Several respondents noted the opinion that recruitment of psychiatrists should begin at the college level or earlier with increased emphasis on the behavioral sciences in the curriculum and opportunities for summer and/or volunteer work entailing some degree of responsibility in a clinical setting.

A large number of respondents indicated that many prospective psychiatrists were discouraged from entering the field because of poor medical school curriculum and poor presentation of psychiatry to medical students. In addition to increasing the students' exposure to psychiatry, it was strongly suggested that medical students be exposed to psychiatry earlier in the medical school program. It was further noted that the emphasis in psychiatric training should be placed on more dynamic methods of treatment. A number of psychiatrists suggested that medical students be exposed to clinical psychiatry by increased student-patient relationships. And finally, it was advocated that summer employment opportunities for medical students in a clinical setting be increased.

Comments regarding the presentation of psychiatry in medical schools were less diverse, emphasizing the need for more dynamic professors of psychiatry with whom students could easily identify. One respondent suggested establishing a training program for professors in psychiatry to remedy this situation.

Notations that there is a need for employing specific recruitment techniques such as advertising, professional and/or governmental recruitment teams, and educational programs in conjunction with medical organizations were relatively infrequent. On the other hand, many psychiatrists felt that recruitment difficulties were augmented by the somewhat isolated position of psychiatry from the rest of the medical field. Some psychiatrists show concern that an indifferent, apathetic or even hostile attitude of nonpsychiatric physician and, occasionally, of medical school faculties to psychiatry caused this isolation. Other psychiatrists criticized the field for its failure to become an integral part of medicine. There was no indication that respondents felt this division could not be repaired through exposure to and the effective practice of psychiatry. Finally, a number of psychiatrists felt the most effective method of recruitment to be emphasis on the humanitarian benefits of psychiatry.

In addition to recruitment of core personnel, another solution to the mental health manpower shortage may lie in expanding the role of the nonpsychiatric physician. This topic was covered in the following question:

> Do you feel there is a greater role for the nonpsychiatric physician who works with patients who have emotional problems?
>
> If yes: In what way do you visualize his role?

As seen in Table 1a, all groups of psychiatrists surveyed expressed a high degree of interest in increasing the role of the nonpsychiatric physician in treating patients with emotional problems. Among all respondents, 85.1 percent noted such interest; the lowest percentage among any of the subgroups reacting positively to this question was 82.6 percent. On the other hand, 7.2 percent of all psychiatrists felt that the role of the nonpsychiatric physician should be lessened. Responses in this category vary somewhat among the subgroups, with respondents in private and individual practice expressing a higher degree of doubt than other subgroups of respondents. It is interesting to note that only 2.8 percent of the full-time medical school faculty group expressed the opinion that the role of the nonpsychiatric physician should be limited.

A third category of respondents had no specific answer to the above question. Included in this category are the "don't know" and the "uncertain" responses. The average for all subgroups in this category is 7.7 percent, somewhat higher than the 5.0 percent of all psychiatrists who had no answer to the general questions on the manpower shortage dealt with in the earlier analysis. This variation might, to some degree, reflect disagreement with the inference of the question as well as the lack of constructive comment.

Although this is not indicated on the table, most respondents who favor an increased role for the nonpsychiatric physician limited the assumption of this function to the general practitioner. Among the specialty groups mentioned by some other respondents were internists and less frequently, obstetrician gynecologists. Several psychiatrists expressing negative views on expanding the role of nonpsychiatric physician explained this position by stating that the general practitioner is already overworked.

Table 1b shows suggestions as to the manner in which they think the role of the nonpsychiatric physician should be expanded. A considerable proportion of all respondents (28.5 percent), as well as among all subgroups, expressed the opinion that the nonpsychiatric physician should have some type of training to treat the emotionally disturbed patient adequately. Additional exposure in medical school and postgraduate courses were mentioned frequently. Less specific comments noting the need for more training are also included in this category. It is interesting to note that the fee-for-service subgroups expressed a stronger interest in additional training than did the salaried subgroups.

Comments regarding the nature of the increased role of the nonpsychiatric physician were divided into the categories of prevention, recognition, and diagnosis and referral. Almost 7 percent of all respondents specifically mentioned a preventive role, and the subgroup most strongly in favor of an increased preventive role was composed of psychiatrists directly involved in preventive medicine. Respondents who noted the recognition function showed an interest in the nonpsychiatric physician being able to recognize symptoms of minor emotional disturbances and, in general, to treat them before more serious problems could develop. Therefore, the concept of preventive medicine is present in this category as

Table 1a

RESPONDENT OPINION CONCERNING THE ROLE OF THE NONPSYCHIATRIC PHYSICIAN IN THE MENTAL HEALTH FIELD, BY NATURE OF PROFESSIONAL ACTIVITIES, SOURCE OF INCOME, AND TYPE OF PRACTICE

(Percents of all respondents)

Opinion about role of nonpsychiatric physicians	All respondents	Nature of professional activities			Source of income				Type of practice[1]			
		Direct patient care—private practice	Direct patient care—not in private practice	Teaching	Fee for service only	Fee for service plus part-time salary	Full-time salary plus some fees for service	Full-time salary only	Resident or fellow	Other full-time hospital staff	Full-time medical school faculty	Preventive medicine
Role should be expanded	85.1%	83.7%	85.4%	86.7%	83.9%	84.0%	87.0%	83.6%	88.2%	84.0%	88.9%	82.6%
Role should be lessened	7.2	9.2	6.9	4.4	8.1	12.0	13.0	6.4	3.2	9.2	2.8	8.7
No answer	7.7	7.1	7.7	8.9	8.1	4.0	0.0	10.0	8.6	6.9	8.3	8.7
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

[1] Excludes private practice, since this classification is shown under "Nature of Professional Activities".

Table 1b

RESPONDENTS WHO INDICATED THAT THE ROLE OF THE NONPSYCHIATRIC PHYSICIAN SHOULD BE EXPANDED: SUGGESTIONS AS TO EXPANDED ROLE BY NATURE OF PROFESSIONAL ACTIVITIES, SOURCE OF INCOME, AND TYPE OF PRACTICE

(Percents of respondents who answered positively)

Comment or suggestion about expanded roles of nonpsychiatric physicians	All respondents	Nature of professional activities			Source of income				Type of practice			
		Direct patient care—private practice	Direct patient care—not in private practice	Teaching	Fee for service only	Fee for service plus part-time salary	Full-time salary plus some fees for service	Full-time salary only	Resident or fellow	Other full-time hospital staff	Full-time medical school faculty	Preventive medicine
G.P.'s could serve more functions with better training	28.5%	33.7%	27.1%	24.4%	37.1%	36.0%	33.3%	25.7%	22.6%	30.5%	27.8%	26.1%
Role of prevention of mental illness	6.9	4.1	8.5	4.4	6.5	0.0	7.4	8.6	7.5	8.4	5.6	13.0
Role in early detection of mental illness	17.2	18.4	17.4	13.3	21.0	16.0	22.2	15.7	16.1	19.1	16.7	13.0
Diagnosis and referral	17.4	21.4	17.8	6.7	14.5	32.0	16.7	14.3	19.4	14.5	8.3	8.7
Expansion of traditional role of G.P.'s	7.2	10.2	6.1	6.7	11.3	8.0	1.9	9.3	3.2	6.1	5.6	17.4
Supportive treatment	36.9	33.7	38.1	37.8	33.9	32.0	42.6	34.3	43.0	35.1	41.7	34.8
Treatment of specific mental illnesses	19.2	91.4	17.8	26.7	21.0	12.0	24.1	16.4	21.5	17.6	27.8	4.4
Treatment of post-mental patients	7.7	1.0	9.3	13.3	1.6	0.0	13.0	10.0	10.8	9.2	13.7	4.4
Increased prescription by G.P.'s of appropriate drugs	20.8	20.4	21.5	17.8	19.4	24.0	14.8	7.1	23.7	21.4	11.1	13.0

well as in the above category, which is limited strictly to a preventive role. A third category pertaining to the nature of the role of the nonpsychiatric physician is that of diagnosis and referral of patients with more serious emotional disturbances which only the psychiatrist would be prepared to treat during the initial stages of illness. The highest percent of respondents specifying the diagnostic and referral role were found among psychiatrists in private and individual practice.

A fairly substantial proportion of all respondents (7.2 percent) particularly in preventive medicine (17.4 percent) and private practice (10.2 percent), expressed an interest in improving the present duties of the nonpsychiatric physician and emphasized the importance of the traditional physician-patient relationship. Frequently, respondents in this category mentioned the "whole patient" concept and the necessity of recognizing the relationships between organic and mental illness. Included in this category are comments which imply a preventive/supportive role such as treating "superficial family and marriage problems" and references to the general practitioner's relationship to the family which the psychiatrist does not ordinarily enjoy.

Comments regarding the type of services the nonpsychiatric physician should render to the emotionally disturbed patient were categorized in the following manner: supportive treatment, treatment of specific disorders, and treatment of postmental patients. Almost three out of eight psychiatrists (36.9 percent) indicated an interest in the performance of a supportive role by the nonpsychiatric physician. Although not shown in the table, approximately 20 percent of the respondents within this category indicated that this role could best be performed under the supervision of or in consultation with a psychiatrist. Specific responses coded in this category ranged from the suggestion that physicians give practical advice to patients with early and mild symptoms to the suggestion that they conduct short-term group therapy. Several psychiatrists felt that the nonpsychiatric physician could conduct family therapy effectively. Another group of respondents mentioned the need for the nonpsychiatric physician to be remunerated equitably for the supportive role which he plays. It is interesting to note that there was little variation from the average among any of the subgroups.

A large number of respondents mentioned specific psychiatric disorders which the nonpsychiatric physician is capable of treating effectively. Approximately one-third of the 19.2 percent of all psychiatrists mentioning specific illnesses felt that this function could best be performed cooperatively with a psychiatrist acting in a supervisory or consultant role. Frequently mentioned in this category were less serious neurotic, personality, and behavioral disorders.

Closely related to the above category is the treatment of postmental patients by nonpsychiatric physicians. Among all respondents, 7.7 percent suggested expansion in this area. Responses herein classified were those concerned with continuing care of chronically disturbed outpatients, respondents frequently mentioned the need for the nonpsychiatric physician to work with a psychiatrist. In this category there is considerable variation in the percentages of responses by groups and subgroups, with private practitioners generally showing little or no enthusiasm for such a plan.

A final category of responses relative to amplifying the role of the nonpsychiatric physician includes those suggestions which pertain to the use of drugs. A large percentage (20.8 percent) of the respondents mentioned the use of drugs in treating the emotionally disturbed patient in one or more of the above three categories. Many psychiatrists mentioned the need for further training so that the nonpsychiatric physician would be able to prescribe or competently modify prescription of drugs in the case of postmental and chronic patients.

The survey also contained a question pertaining to the creation of new ancillary personnel:

> Do you think that there are any possible new ancillary fields which would make possible the

more efficient utilization of the time of the core groups?

As can be seen in Table 2a, most respondents limited their comments to the traditional ancillary personnel; however, a large number expressed an interest in creating positions or amplifying the responsibilities of existing ancillary personnel so that they would be capable of assuming responsibilities generally within the scope of the core groups. These comments are included in this analysis to preserve the continuity and tone of the report.

A large percentage of all respondents (17.4 percent), as well as with in each subgroup, expressed an interest in increasing the number of psychiatric workers who perform therapy in the mental health field. It is interesting to note that respondents do not differentiate between the established lines of core and ancillary roles. In general, psychiatrists emphasized the need for more group therapy leaders and stipulated that a college background was necessary. A majority of respondents also specified that this group of therapists should work in conjunction with educational, religious, corrective, and business institutions or within the framework of community mental health programs. A large number of respondents stated that these therapists should work under the supervision of a trained psychiatrist.

Respondents in the next category, who suggested the establishment of new types of therapists, expressed an interest in additional manpower capable of acting in a limited advisory role similar to that of the psychiatric social worker. Specifically, respondents mentioned marriage counseling, family planning, financial counseling, and family therapy. Psychiatrists in the teaching profession presented this suggestion with more frequency (17.8 percent) than the 10.3 percent of all psychiatrists who did so.

A third type of mental health worker frequently mentioned by respondents was the worker concerned with environmental problems. More than one in seven respondents (14.6 percent) made such a suggestion. The responsibilities of workers in this category differ from the therapeutic roles described in the above category in that these workers are concerned with practical problems encountered by the individual outside of his immediate family or with the community itself. Included in this category are suggestions to increase numbers of vocational counselors and recreation directors. Also included are suggestions to augment public health personnel concerned with mental health work. It should be noted that psychiatrists in preventive practice responded with greatest frequency (17.4 percent) to the above category. This is particularly interesting because the respondents in preventive medicine did not, in general, have a high response rate to questions requiring positive commentary. It is doubtful that this response rate reflects a lack of interest with the manpower shortage; logically, the low relative number of responses from these psychiatrists can be explained by their comparative lack of patient contact.

Comparatively few psychiatrists (1.8 percent) expressed concern with the lack of housekeeping personnel in the mental health field. It should be noted that most respondents in this category felt that improved working conditions and increased educational programs for all mental health personnel would alleviate the shortage in this part of the mental health field.

A large proportion of psychiatrists (8.0 percent) mentioned the need for more clerical assistants to aid the core groups in the mental health field. Respondents in the fee-for-service subgroups expressed considerably less concern than psychiatrists in salaried positions with the lack of adequate clerical assistance. It was generally felt that the core mental health groups should be relieved of clerical duties so that they could devote full time to therapeutic procedures. In particular, respondents felt that psychiatrists would benefit most from having additional manpower to perform clerical duties. A number of respondents also felt that social workers could be better utilized if they were freed from large amounts of paperwork. Some psychiatrists felt that training beyond business office skills was desirable, particularly for clerical per-

Table 2a

PERCENTS OF RESPONDENT WITH SUGGESTIONS CONCERNING EITHER UTILIZATION OF ANCILLARY PERSONNEL OR TECHNIQUES WHICH COULD BE EMPLOYED BY PRESENT PERSONNEL BY NATURE OF PROFESSIONAL ACTIVITIES, SOURCE OF INCOME, AND TYPE OF PRACTICE

Suggestion as to personnel or technique	All respondents	Nature of professional activities			Source of income				Type of practice			
		Direct patient care—private practice	Direct patient care—not in private practice	Teaching	Fees for service only	Fee for service plus part-time salary	Full-time salary plus some fees for service	Full-time salary only	Resident or fellow	Other full-time hospital staff	Full-time medical school faculty	Preventive medicine
More therapists of existing types	17.4%	20.4%	16.2%	17.8%	17.7%	24.0%	18.5%	12.9%	18.3%	12.2%	19.4%	21.7%
New types of therapists	10.3	9.2	9.3	17.8	8.1	16.0	7.4	8.6	11.8	8.4	16.7	4.4
Counselors in environmental problems	14.6	16.3	14.6	11.1	19.4	12.0	9.3	19.7	9.7	17.6	11.1	17.4
More housekeeping personnel	1.8	2.0	2.0	--	3.2	--	1.9	2.1	2.2	2.3	--	--
More clerical personnel	8.0	4.1	9.3	8.9	3.3	4.0	9.3	11.4	8.6	10.7	8.3	4.4
Other personnel	7.7	4.1	8.9	8.8	4.8	--	3.7	12.3	10.8	9.9	5.6	--
No answer	13.6	13.3	13.4	15.6	14.5	8.0	7.4	18.9	14.0	13.0	11.1	13.0
No changes, uncertain	19.2	26.5	17.1	15.6	27.4	28.0	16.7	20.0	12.9	21.4	16.7	34.8
Negative comments regarding existing ancillary personnel	5.1	6.1	5.3	2.2	6.5	4.0	1.9	7.1	3.2	6.9	2.8	4.4

sonnel having contact with patients in taking case histories.

A final category of responses concerned with the role of ancillary personnel must be termed "other personnel." Almost 1 respondent in 12 (7.7 percent) supplied an answer which falls into this category. Responses include several suggestions that the role of special therapists such as music therapists and creative writers be explored further. A number of respondents in this category recognized the need for mental health workers capable of organizing, coordinating, and supervising mental health personnel, and several respondents expressed an interest in providing instructors and coordinators primarily concerned with directing the efforts of intelligent lay volunteer workers.

An average of 13.6 percent of all psychiatrists were coded in the "no answer" category. Although there is some variation from the average among the subgroups, there is little variation among the major groups. A larger percentage of respondents (19.2 percent) indicated that they were uncertain about the role of new ancillary personnel and so did not wish to see new roles created. Psychiatrists in private and individual practice and psychiatrists in preventive medicine responded in this category with greater frequency than those in the remaining subgroups.

A few psychiatrists (5.1 percent) expressed negative opinions about existing personnel, strongly questioning the ability of ancillary personnel to perform their present tasks effectively. Many respondents in this category also felt that existing ancillary personnel were often a detriment to effective therapy. In general, respondents connected with teaching institutions were less critical of existing ancillary personnel.

A number of respondents (7.2 percent) volunteered the suggestion that the roles and responsibilities of existing ancillary personnel should be defined. Psychiatrists in private and individual practice noted this response more often than other respondents. Frequently, respondents expressed the opinion that unnecessary duplication of effort results from a poor definition of functions for specific personnel. Also included in this category are comments relative to increasing the efficiency of existing ancillary personnel. A number of respondents also expressed a strong interest in improving the education of the psychiatric worker so that he would be better equipped to perform his role. (These categories of response are not included in the table since they represent digressions from, rather than answers to, the question.)

In responding to this question, a large number of psychiatrists mentioned specific manpower pools which might be better utilized in mental health work. These responses are included in Table 2b.

Approximately one respondent in nine (11.3 percent) expressed the opinion that specific core and ancillary groups were not being recruited and trained to meet present needs. For example, several respondents felt that the lack of specialized training and accreditation programs for psychiatric nurses made this field less attractive for qualified nurses who might, with added incentive, enter the field. Included in this category are similar suggestions regarding psychiatric social workers. A large number of responses in this category concern the lack of in-training facilities for ancillary workers in mental hospitals which would produce more capable aides and, hopefully, reduce turnover rates among employees.

A large number of psychiatrists, particularly those outside of private practice and in teaching, felt that community resources as a whole were not adequately used. Specific comments in this category are limited to utilization of the lay public and do not, by definition, imply need for higher education. Generally, respondents in this category were concerned with the manpower pool for work which might be performed adequately by volunteers. Over 13 percent of respondents made such comments.

Suggestions for utilizing *professional* manpower were classified separately. A significant proportion (17.7 percent) of respondents in this group specifically mentioned the creation of a new discipline, the nonmedical psychotherapist, as suggested by Lawrence Kubie. Many psychiatrists suggested that clergymen, probation officers, personnel directors, and others in such occupations, might, with limited education efforts or increased liaison with core personnel, become an active part of mental health manpower

Table 2b

PERCENTS OF RESPONDENT MAKING SUGGESTIONS CONCERNING SOURCES OF SUPPLY FOR A MENTAL HEALTH MANPOWER POOL BY NATURE OF PROFESSIONAL ACTIVITIES, SOURCE OF INCOME, AND TYPE OF PRACTICE

Source of manpower pool	All respondents	Nature of professional activities			Source of income				Type of practice			
		Direct patient care—private practice	Direct patient care—not in private practice	Teaching	Fee for service only	Fee for service plus part-time salary	Full-time salary plus some fees for service	Full-time salary only	Resident or fellow	Other full-time hospital staff	Full-time medical school faculty	Preventive medicine
Present ancillary personnel	11.3%	8.2%	11.7%	15.6%	6.7%	8.0%	14.8%	14.9%	10.8%	12.2%	19.4%	13.0%
Lay public	13.3	5.1	16.6	13.3	6.5	4.0	9.3	18.0	9.7	13.7	16.7	21.7
Professional sources	17.7	21.4	17.0	13.3	16.1	28.0	16.7	20.5	14.0	16.8	16.7	30.4
Teachers	8.7	8.2	8.1	13.3	4.8	16.0	9.3	9.0	8.6	9.2	16.7	8.7

programs. The high rate of suggestions along these lines from psychiatrists in preventive medicine is perhaps indicative of the preventive nature of the work which might be performed by the lay public and more highly trained nonpsychiatric workers.

A number of respondents (8.7 percent) expressed an interest in increasing the role played by teachers. Most responses in this category also emphasized the importance of preventive measures.

Restructuring

In addition to inquiring about the creation of new ancillary personnel, the questionnaire also contained the following question on restructuring:

> Are there any other ways in which the field of mental health might be restructured so that the need for personnel would be decreased?

Responses to this question and comments relevant to restructuring were classified together and the data are to be found in Table 3.

Respondents in all groups generally recognized the desirability of modifying treatment methods to reach a larger number of emotionally disturbed patients. Four frequently mentioned methods of achieving this goal were: expanded mental health facilities at the community level; more group therapy; short-term treatment; and shorter treatment periods. Frequently, respondents expressed an interest in employing more than one of the above practices to utilize existing manpower with greater efficiency.

A large percentage of all psychiatrists (26.9 percent) expressed an interest in expanding mental health facilities at the community level. Respondents in the salaried and teaching subgroups in particular tended to stress the need for such facilities, frequently expressing the opinion that immediate crisis therapy often drastically reduces the length of hospitalization and cuts down relapse rates, thus diminishing the demands on state institutions. A large number of psychiatrists in these categories emphasized the desirability of keeping the patient in his environment for therapeutic reasons. Facilities included in this category are day care, walk-in clinics, family clinics, and, in brief, any facility geared to provide immediate care for the emotionally disturbed. Respondents frequently indicated an interest in utilizing ancillary personnel in the community mental health centers to facilitate immediate care, and a number of psychiatrists felt that these clinics should be part of community hospitals.

The need for increased use of group therapy techniques was also emphasized by a large number of psychiatrists (22.8 percent). Although psychiatrists in private practice did not mention group therapy as frequently as did the salaried and teaching groups (20.4 percent vs. 23.9 and 22.2 percent, respectively), there is no marked variation among any subgroup from the average of all respondents. Many respondents in this category mentioned the concept of team treatment, utilizing the psychiatrist as consultant and other psychiatric personnel as therapists. In addition to core personnel, interested lay people and recovered mental patients were suggested as group therapy leaders.

Many respondents (16.2 percent) mentioned the employment of short-term treatment techniques as a means of reducing chronic illness as well as of reaching a larger number of emotionally disturbed patients. Respondents in this category advocated crisis-oriented limited-goal therapy under the hypothesis that short-term treatment is the most effective method of treating a majority of psychiatric disorders. A number of psychiatrists also stressed the prophylactic value of short-term treatment.

Comparatively few respondents (5.6 percent) suggested utilizing shorter treatment periods as a method of restructuring mental health services, with the salaried subgroups expressing more interest in this

Table 3

PERCENTS OF RESPONDENTS WITH SUGGESTIONS CONCERNING POSSIBLE RESTRUCTURING OF THE MENTAL HEALTH FIELD OR TREATMENT FACILITIES BY NATURE OF PROFESSIONAL ACTIVITIES, SOURCE OF INCOME, AND TYPE OF PRACTICE

(Percents add to more than 100 percent because of multiple answers.)

Restructuring suggestions	All respondents	Nature of professional activities			Source of income				Type of practice			
		Direct patient care—private practice	Direct patient care—not in private practice	Teaching	Fee for service only	Fee for service plus part-time salary	Full-time salary plus some fees for service	Full-time salary only	Resident or fellow	Other full-time hospital staff	Full-time medical school faculty	Preventive medicine
Need for community mental health facilities	26.9%	24.5%	27.5%	28.9%	27.4%	32.0%	27.8%	30.3%	29.0%	29.7%	27.8%	8.8%
Increased use of group therapy	22.8	20.4	23.9	22.2	16.1	32.0	27.8	24.6	22.6	26.0	22.2	17.4
Short term treatment	16.2	16.3	15.8	17.8	12.9	28.0	24.1	14.8	18.3	16.8	16.8	8.7
Shorter treatment periods	5.6	6.1	5.3	6.7	3.2	16.0	5.6	4.1	8.6	3.8	8.3	--
Curtail use of psychoanalysis	9.0	4.1	10.1	13.3	4.8	--	7.4	16.4	5.4	15.3	8.3	--
Community education programs	19.7	22.5	18.2	22.2	22.6	32.0	20.4	18.9	10.8	16.0	22.2	21.7
Coordination of existing services	4.6	3.1	4.5	8.9	3.2	4.0	7.4	3.3	5.4	3.8	11.1	4.4
Administration of psychiatric institutions	2.6	1.0	2.8	4.4	1.6	--	7.4	3.3	1.1	3.1	5.6	8.7
Redefinition of cure and illness	8.7	9.2	8.1	11.1	8.1	12.0	1.1	10.7	5.4	10.7	11.1	4.4
Do not know: no suggestions	4.1	5.1	2.8	8.9	6.5	--	9.3	3.3	5.2	3.1	11.1	4.4
No answer	13.3	14.3	13.4	11.1	14.5	8.0	3.7	19.7	12.9	13.0	11.1	17.4
Do not restructure	3.1	4.1	4.1	--	3.2	8.0	3.7	4.1	1.1	3.8	--	8.7
Other suggestions	15.9	19.4	14.2	17.8	14.5	28.0	13.0	20.4	11.8	16.8	22.2	8.7

solution than the fee-for-service groups. Psychiatrists in this category strongly favored replacing the "50 minute hour" with a 20- to 30-minute treatment period.

In the four categories concerned with modifying treatment methods, respondents frequently questioned the value of prolonged psychoanalysis. An average of 9.0 percent of all psychiatrists favored using psychoanalysis only infrequently and carefully screening cases in which prolonged therapy is to be used. It is interesting to note that respondents in the salaried and teaching subgroups were considerably more concerned with limiting the application of psychoanalysis than were the fee-for-service subgroups. A few of the respondents in this category were totally disillusioned with the technique of psychoanalysis; however, most respondents who expressed a desire to limit psychoanalysis did so with the idea that psychiatrists' limited time could be more efficiently utilized in other forms of treatment.

Nearly one out of five respondents (19.7 percent) stated that the mental health field should be restructured to include communitywide education programs of some type. A large number of the psychiatrists in this group mentioned the value of preventive work in cooperation with elementary and secondary school systems; many of the respondents advocated increased formal training, such as workshops for schoolteachers. Many respondents in this category also expressed an interest in using mass media to reach large segments of the population, and suggested that industry might institute preventive mental health programs, thus reaching a large number of people. Also included in this class are general comments about the need to correct the misconceptions and/or apathy of the public regarding mental health problems.

Some respondents (4.6 percent) felt that coordination of existing services would eliminate the need for additional manpower. In particular, a number of respondents felt that the inefficient care of post-mental patients on the local level often leads to rehospitalization. A small number of respondents stated that various institutions might coordinate services in treating the same individual.

A small group of respondents (2.6 percent) were concerned with the administration of mental institutions. In general, respondents who favored administrators from outside of the psychiatric field expressed the opinion that the promotion system in state service deprived institutions of their most able and experienced clinicians. It was also felt that professional hospital administrators make better administrators than do psychiatrists. On the other hand, some of the psychiatrists who were unhappy with administrative appointments felt that the administration of mental institutions should be under the direction of trained psychiatrists.

A large number of responses (15.9 percent) are grouped under the heading "other suggestions." Included in this category are many respondents who desired home care and visiting services for post-mental patients. A number of respondents in non-private practice had specific suggestions regarding the reorganization of institutional services such as establishing separate institutions for clinical and custodial care, and the abolishment and/or relocation of large institutions. Also included are suggestions regarding special therapeutic groups such as Synanon and Alcoholics Anonymous and comments on rehabilitation and recreational facilities for older people, schoolchildren, and special interest groups.

A small number of respondents in this class hoped that hospitalization for mental illness might eventually become voluntary, and a few respondents criticized law enforcement officers for the preventive role psychiatric manpower is frequently expected to assume in institutions.

There was a group of respondents (8.7 percent) who expressed dissatisfaction with the definitions of cure and illness. Most of the respondents in this class felt that the public and, less frequently, psychiatrists labored under the misconception that happiness could be equated with mental health. Also included in this class are criticism of treatment by law enforcement officers of alcoholics, homosexuals and other deviates and juvenile delinquents.

There were three categories in which respondents did not make positive responses to the above question: "do not know" (4.1 percent), "no answer" (13.3 percent), and "do not restructure" (3.1 percent). Percentages of responses in the "do not know" category vary somewhat among the subgroup studies, and there is no apparent explanation for the variation from the average for all psychiatrists. A much larger number of all psychiatrists are coded in the "no answer" category. As in the above category, it is impossible to relate the response rate to the various subgroups. The "do not restructure" category is somewhat smaller than the "do not know" category. Psychiatrists in this category generally expressed satisfaction with the present structure for the provision of mental health services. A total of 20.5 percent of all respondents are coded in the above three categories, which is considerably lower than the total percentage of respondents who failed to make a positive response to the earlier question relating to manpower.

Technological Advances

Most respondents commented on technological advances in psychiatry and the effect these changes have had on the manpower shortage. With the exception of changes in psychotherapeutic techniques discussed above under "restructuring," comments on technological advances varied greatly and few of the specific suggestions lent themselves to coding. Therefore, the following discussion attempts to summarize and abstract pertinent commentary on chemotherapy, advanced diagnostic techniques, and social reorganization leading to the alleviation of emotional disturbances.

For several reasons, a number of respondents viewed the current manpower shortage in the mental health field as a permanent problem. Most of these respondents felt that emotional disturbances will be compounded as a result of population growth and increased neuroses caused by increased tensions. Some of the psychiatrists in this class also expressed concern about the effect which increased automation and technology will have on the individual in his search for a meaningful existence. A number of respondents stated that technical advances in mental health will not eliminate the need for additional manpower and, at best, can only enable those working in the field to maintain the status quo in treating the emotionally disturbed.

A small group of psychiatrists were skeptical of technological advances because they consider emotional disturbances to be primarily a behavioral problem which cannot be rectified without vast educational programs involving society as a whole. Specific suggestions in this group included cooperative efforts with city planners, governmental, industrial and educational leaders and other behavioral scientists. There was some conflict between those who felt that the public must be taught to accept deviations from the norm and those who implied that these deviations would disappear with adequate social restructuring.

A large number of psychiatrists in all groups mentioned the use of chemotherapy. Although the majority of these respondents expressed optimism concerning the development, refinement and future application of drugs, a number of psychiatrists doubted that any advance in technology could replace the therapeutic value of the interaction found in the therapist-patient relationship. Several respondents expressed the opinion that the exaggerated emphasis on the value of chemotherapy results from considering emotional disorders strictly as an outgrowth of physiological disorders and ignoring the importance of environmental factors. Most respondents who did mention chemotherapy as an efficient method of treatment did not see it as an immediate answer to the manpower problem, but expressed the hope that, with further development, these drugs would become more effective in the treatment of specific disorders.

Another group of psychiatrists stated that advances in mental health would probably stem from physiological discoveries. These respondents were about equally divided between the group which considered it possible to determine and correct the organic cause of mental diseases and the group which felt that mental diseases might best be alleviated through genetic control.

A number of respondents were of the opinion that there can be no significant advance in the mental health field without concerted research efforts. The need for research on the etiology of emotional disturbances was frequently emphasized, and a few respondents stressed the importance of studying the epidemiology of mental disease. Many felt that physiological research would provide information helpful in pinpointing causes of disease and leading to more effective treatment methods. Several respondents expressed dissatisfaction with current research efforts which duplicate previous and/or current research or monopolize existing funds and facilities. In particular, several respondents felt that pure research is a luxury which the mental health field can ill afford at the expense of ignoring applied research into the effectiveness of various methods of treatment currently used in combating emotional disturbances. Although the need for additional funds for research was frequently mentioned, few respondents could suggest sources of such funds to support this research.

Some respondents had no specific suggestions regarding technological advances which would alleviate manpower shortages. Typical responses in this class were "do not know," and "impossible to predict at this time." There was, moreover, a small group of respondents who predicted a major breakthrough, especially in the behavioral sciences, which would provide a new basis for therapy.

Finally, a few respondents mentioned that automation might eventually be used to assist the core workers in mental health and to free them from paperwork. It was also suggested that admission procedures might be automated to some degree, particularly in the area of interhospital records transfer, thus freeing manpower to perform other functions.

Further Observations of Respondents

In the last section of the survey, psychiatrists were asked to comment on inadequately explored possible solutions to mental health manpower shortages. In general, comments in this category echoed those expressed in other sections of the survey. There were however, a disproportionate number of comments about the role of psychiatry in medicine and a large number of comments stressing the importance of preventive medicine.

Most of the comments questioning the present aims of psychiatry were directed toward a more precise definition of cure and illness, and a clarification of what can be accomplished under optimal conditions. One respondent commented that current psychiatric goals can be achieved only if society is to become "one vast family care program." Several psychiatrists suggested that a distinction should be drawn between mental illness and resocialization problems in the case of long-term, socially withdrawn patients. It was also stated that reestablishing aims to conform to current clinical knowledge may reduce manpower shortages while maximizing the utilization of existing mental health personnel.

A large number of respondents representing all major groups in the sample stressed the importance of preventive psychiatric measures in this last section of the questionnaire. In general, psychiatrists stated that programs in preventive medicine should be carried out in conjunction with educational programs in elementary schools. Less frequently, respondents expressed interest in preventive psychiatric care at the high school level or in communitywide educational programs which might be part of community mental health centers. One respondent suggested that compulsory education in child-rearing might have a profound prophylactic value.

From the comments analyzed above, it can be seen that most psychiatrists feel that the mental health manpower shortage can be alleviated through expanding the field of mental health personnel, amplifying the responsibilities of ancillary personnel, and restructuring the field. Although one cannot ignore the importance of technological advances in chemotherapy, physiology, and in the behavioral sciences, the majority of the respondents offering positive suggestions about the manpower shortage did not express the opinion that technology would alleviate the shortage in the foreseeable future.

It can be seen that a large number of respondents favored expanding the role of the nonpsychiatric physician and of various ancillary personnel to expanding that of the therapist, using the concept of the psychiatric team to treat the emotionally disturbed. Thus, with increased training and/or assistance from psychiatrists acting in the role of consultant/adviser, the number of workers performing the duties traditionally performed by core personnel would be greatly increased.

Recruitment of medical students and physicians into the field of psychiatry was also explored fully. Although recruitment programs were mentioned, most respondents stressed the value for the practicing physician of adequate clinical exposure in medical school and postgraduate training facilities. It should be noted that, while several psychiatrists felt that, with further training, practicing physicians could become excellent psychiatrists, this was not considered a particularly fertile field for concerted recruitment efforts.

Most respondents commented on the increased roles and responsibilites of ancillary workers, but comparatively few commented on specific manpower pools which have not been fully explored. There were, however, a number of suggestions in the last section of the survey which indicate that the lack of specific suggestions might result from the wording of the survey rather than from a lack of interest in sources of manpower. In particular, college students, housewives, and retired people were frequently mentioned as potential workers in rehabilitation. It was also suggested that minority groups, expecially Spanish-speaking groups, be utilized more fully.

Restructuring of mental health services to increase utilization of existing manpower was frequently suggested by psychiatrists in all groups. In general, respondents expressed the opinion that this goal could best be accomplished through the increased use of small community health centers which would be strongly oriented toward preventive medicine and through the increased use of therapeutic methods employing an increased patient/therapist ratio.

Chapter VI

TECHNIQUES APPLICABLE TO THE ALLEVIATION OF THE MENTAL HEALTH MANPOWER SHORTAGE

EXAMPLES OF TECHNIQUES APPLICABLE TO THE ALLEVIATION OF THE MENTAL HEALTH MANPOWER SHORTAGE

As stated in the introduction to this volume, the number of ideas which have come to light during the past two years, from a large number of sources, is immense, and covers a broad range of subjects introduced by numerous disciplines. It has been a thesis of this publication that a cross-professional approach to the problem of manpower shortages will offer the only possible solution; further, a problem exists in the discrepancy between social need for, in particular, mental health personnel, and expressed social need for them. In other words, most persons knowledgeable in the field perceive a greater need for mental health personnel than apparently does the rest of society. Many of the solutions proposed in this volume, and in the literature on the subject, make the assumption that merely changing the expression of social need will solve the problem, as, for example, in the case of attempting to make a particular field more attractive by monetary incentive. At best, such a solution is only temporary, for it involved artificial manipluation of the balance of supply and demand; and when such manipulations are performed, balance is eventually reestablished.

Dr. George Albee approaches this problem abstractly in his paper urging a complete revamping of the conceptual framework of treatment for the mentally ill. Dr. Lee Sanella also touches on the necessity for a change in the socially perceived need for mental health personnel in his discussion on involving persons outside the field in the mental health effort.

This "external" approach to the solution of manpower shortages, which includes broadening the *total* manpower pool as well as altering perceived social need, is discussed in several of the creative papers, and does not lend itself to a list type of summary. The "internal" approach, consisting of those factors which work within the established situation of the present manpower pool, however, does lend itself to such a summary. The following list, reprinted from Volume I, is a categorization of techniques which have been applied or proposed to alleviate the shortage of qualified personnel in the field of mental health manpower. (For a more thorough discussion of conceptual approaches, the reader is referred to Volume I of this study.)

Utilization

1. Increase alternative services.
2. Send patients with long-term illnesses to nursing homes.
3. Replace obsolete beds in state hospitals with beds in community centers.
4. Extend creative capacity of mature scientists by refresher courses in other fields and by apprenticeships.
5. Conduct work-studies to see how time is used.
6. Utilize home helpers and paid housecleaners.
7. Make arrangements with other institutions to supply the training to correct lack of people and facilities.
8. Encourage women over 40 to return to the teaching and nursing professions.
9. Have college student volunteers work in direct contact with disturbed children.
10. Train older women to conduct psychotherapy.
11. Utilize retired persons.
12. Give special classes to older retiring persons.
13. Identify necessary changes.
14. Retain older workers on part-time basis.
15. Utilize nonprofessional aides.
16. Resources include:
    a) Unemployed trained persons.
    b) Optimal utilization of present employees.
    c) Staff sharing with other hospitals.
    d) Adult education programs.
17. Teach behavioral science concepts to lawyers so that they can practice social or preventive psychiatry.
18. Utilize ancillary personnel, volunteers, and technicians.
19. Employ public health nurses to support psychiatric nurses.
20. Without cutting into the physician's free time, a private medical radio station could transmit medical news, information, and literary digests.
21. Give older teachers with slight deficiencies smaller classes, rather than dismissing them.
22. Utilize an admitting suite to centralize admissions, etc.
23. Retain employees after retirement.
24. Utilize clergy, teachers, and lawyers as preventive psychiatrists.
25. Make sure supplies are easily accessible, up to date, centrally located, and centrally purchased.

26. Simplify and standardize records and stationery whenever possible.
27. Realize that patients can help in an emergency and can do more for themselves than most professionals recognize.
28. Types of machines being used or worked on include:
    a) An interrogation machine to obtain patent's medical history.
    b) A system for pharmacies to dispense single units of drugs.
    c) Analyzers of repetitive physiological measurements—electrocardiograms, etc.
    d) Quality controllers for clinical laboratories.
    e) Machines for administrative work in hospitals—tabulation of patient charges, preparation of bills, etc.
    f) Translating machines for medical articles in foreign languages.
    g) An integration machine for daily work schedules.
29. Correct distribution imbalance and lack of mobility.
30. General practitioners can organize classes in times of stress, deal with parents during child's illness, and prepare child adequately for surgery.
31. Utilize all personnel at the highest level of their skill.
32. Employ new methods to free trained personnel, including:
    a) Linen cart exchange—two large linen carts are restocked periodically by nonprofessional personnel.
    b) Messenger service.
    c) Roust aid duties—all interrupting duties are assigned to one aid.
    d) Nurses' secretarial duties.
33. Utilize tape recorders for reports on patients.
34. Utilize a traveling team of psychiatrists to set up training programs.
35. Identify future changes in the profession at an early date.
36. Encourage Army and Navy corpsmen who served in hospitals during their terms of duty under supervision to enter the field after their terms of duty.
37. Untapped resources include:
    a) High school graduates who do not enter college.
    b) Those who enter college but do not finish.
    c) Those who finish college but do no postgraduate work.
    d) Those who achieve low test scores because of early schooling deficiencies.
38. Extend creative capacity of mature scientists. Rather than have the older scientist accept an administrative position, offer him a refresher course and apprenticeship.
39. Improve working conditions.
40. Set up staff-sharing programs with other institutions.
41. Increase alternate services.

Education

1. Give schools information about occupational trends, student aspirations, etc., for effective counseling.
2. Introduce accelerated classes for gifted youth.
3. Insure better education for Negroes.
4. Identify talented individuals as early as possible.
5. Introduce courses in psychology in high school or junior high.
6. Have students spend a week's residence in an institution as part of clerkship.
7. Introduce more exploratory courses in junior high and high school.
8. Strengthen universities' experience with research.
9. Increase student experience through clinical material, field trips, and laboratory work.
10. Introduce summer institutes.
11. Establish honorary awards and recognition for outstanding high school seniors.
12. Employ new methods to increase teacher effectiveness, such as closed-circuit TV, tapes, films, and slides.
13. Institute reading clinics for capable but underdeveloped students.
14. Hire more teachers.
15. Buy more laboratory equipment.
16. Do not underestimate students' abilities.
17. Grade papers more effectively.
18. Introduce a summer program for high school students for college credit.
19. Institute a program so that the capable student can earn a B.A. in three years and an M.A. in four.
20. Create a new profession—doctorate of medical psychology.
21. Reestablish nurses' training schools in psychiatric hospitals.
22. Offer advanced programs for attendants, aides, and technicians.
23. Shorten Ph.D. program by:
    a) Eliminating dissertation.
    b) Reducing course work.
    c) Frequent contact between student and professor.
24. Create a program of psychiatry for physicians.
25. Increase length of school year.
26. Reduce duplications in course offerings through larger lectures, smaller lectures, etc.
27. Offer honors programs.
28. Introduce special college programs for selected students, including flexibility in fulfilling re-

quirements, use of library stacks, etc. Under this program, many students graduate after four to six semesters.

29. Admit high school graduates to college on recommendation from teachers, counselors, and principals.
30. Utilizing of high school teachers as counselors will deplete the already small supply of teachers.
31. Hire industrial scientists to teach part time.
32. Send books, tests, tapes, etc., to rural areas.
33. Use government laboratories as teaching centers.
34. Recognize need for better education.
35. Establish better teacher-student relationship.
36. Introduce science courses earlier in school career.
37. Insure early recognition of talent.
38. Avoid duplication in college of high school course work.
39. Give graded tests to high school students in regular courses. Those who do outstandingly well may receive some college credit.
40. Establish scientists as part-time high school teachers.
41. Educate college-trained mothers for teaching positions.
42. Get high school students jobs in laboratories for the summer.
43. Coordinate and strengthen high school education.
44. Establish awards for high school students and teachers.
45. Institute advanced programs for attendants and aides.
46. Select students for specialized rather than overall ability.

Recruitment

1. Establish science fairs, talent searches, and scholarships.
2. Utilize special brochures, telephone calls, TV, radio panels, and lectures.
3. Take advantage of the fact that career plans are often decided by age 12.
4. Promote conferences with science teachers and counselors.
5. Sponsor visits to engineering firms (laboratories, hospitals, etc.).
6. Help high schools and lower schools to benefit from extracurricular applied science laboratories.
7. Provide demonstrations and kits for recruitment.
8. Sponsor foreign students.
9. Utilize older persons as counselors, on recruitment committees, and in career days.
10. Utilize counseling services:
    a) To present the student with accurate information.
    b) For individual analysis of aptitudes and interests.
    c) To give attention to problems affecting health of students.
    d) For in-service training in guidance.
    e) For guidance of dropouts.
11. Establish science camps.
12. Give high school research apprenticeships during summers.
13. Utilize library tour and Coke party to encourage high school students.
14. Contact PTA for recruitment ideas and aid.
15. Advertise need in college paper.
16. Develop trainee programs.
17. Utilize career day booths for distributing literature and getting mail list.
18. Help Future Scientists of America to give career information, etc.
19. Help parents encourage their children.
20. Encourage professors by:
    a) Assuring academic freedom.
    b) Providing adequate facilities.
    c) Expanding the system of leaves and pay.
    d) Using junior assistants where possible.
    e) Offering more fringe benefits.
    f) Raising salaries.
21. Nurses need:
    a) More adequate student guidance programs.
    b) More aides to prevent overwork.
22. Tools for recruitment include pamphlets, posters, bulletin board displays, news ads, literature, stressing male nurses and Negroes.
23. Form special workshops for the gifted students.
24. Establish liaisons between college, high school, and junior high.
25. Publicize scholarship programs more effectively.
26. Enlist interest and aid of community leaders in business, industry, labor, government, school administration, PTA, and service organizations.
27. Increase fringe benefits for hospital employees.
28. Provide current career information through:
    a) Public health nurses.
    b) High school counselors.
    c) School superintendents.
29. Arrange conferences with parents.
30. Make sure that all information is correct.
31. Offer scholarships for high school teachers.
32. Find summer employment for teachers.
33. Provide summer employment in each discipline at several academic levels (ongoing research).
34. Establish programs for professional staff to recruit others.
35. Utilize posters on streetcars and establish an office to which inquiries can be sent.
36. Employ a speakers' bureau.
37. Utilize postal meter advertising.
38. Use a commemorative stamp.

39. Establish traveling libraries.
40. Change public image of librarians.
41. Establish Future Physicians Clubs.
42. Utilize films and experiments, and career information in library.
43. Pursuade local business firms to support recruitment.

Finance

Recommendations for Federal and State Funds

1. Give scholarships, funds for educational support.
2. Fund-raising campaigns should include hard facts, volunteers working toward stated goals, personal solicitation, good leadership, and direct friendly conversational appeals.
3. Establish a system of long-term loans given by the parents of potential students to the university. When the student arrives, part of his education is already paid for.
4. Give professional advice to the government.
5. Raise teachers' salaries.
6. Establish earn-while-you-learn programs.
7. Secure cooperation of industry.

Chapter VII

CURRENT RESEARCH

CURRENT RESEARCH

Following is a partial listing of work currently being done in the field of mental health, as it pertains, directly, or indirectly, to the manpower shortage. In each case, the source of information has been cited so that interested persons may contact the researchers themselves. A number of ongoing research projects pertaining specifically to manpower, conducted by various organizations, were listed in Volume I of this study. Those which are still in progress are listed again in this brief summary.

The American Institute of Physics, 355 East 45th Street, New York, New York, has been carrying on for the past few years a project on manpower studies in physics.

The American Medical Association (Board of Trustees), 535 North Dearborn Street, Chicago, Illinois, has proposed to set up a manpower study within the AMA with mental health manpower as one component.

The American Physical Therapy Association, 1790 Broadway, New York 19, New York, is conducting a national manpower survey of physical therapists.

The American Psychiatric Association, 1700 18th Street N.W., Washington, D.C., is conducting an extensive manpower study of special interest to mental health research.

Dr. John S. Anderson, Executive Officer, Montana State Board of Health, Helena, Montana, is conducting a study of family health services for the mentally ill, centering on utilization of public health nurses in providing service to families where one or more members is mentally ill, and on improving public awareness of mental health concepts.

Mrs. Arthur W. Blount, D.P., Research Lock Box A, Harding, Massachusetts, is conducting a survey of attitudes toward research among mental hospital employees.

Dr. Walter Bock, University of Maryland, College Park, Maryland, is conducting a study of the knowledge of public health nurses about mental illness, and of their attitudes toward their mentally ill patients.

Dr. Alexander C. Brown, M.B., State of New York Department of Mental Hygiene, 333 East Washington Street, Syracuse, New York 13202, as conducting a study of psychiatric treatment and services, comparing responses of American and British psychiatrists concerning community mental health centers.

Mrs. Theodora R. Calov, New Jersey Rehabilitation Commission, Marlboro State Hospital, P.O. Box 59, Marlboro, New Jersey 07746, is conducting a demonstration project involving the establishment of two rehabilitation houses (halfway houses) and day center programs in each house for the vocational rehabilitation of the mentally ill.

Dr. Nicholas A. Cummings, Kaiser Foundation Hospital, 2425 Geary Boulevard, San Francisco, California 94115, is conducting a study of the inpatient and outpatient utilization of all medical services before and after psychotherapy.

H. Warren Dunham, Ph.D., Epidemiology Laboratory, Lafayette Clinic, 951 East Lafayette, Detroit, Michigan, is conducting a study with the objective of providing a factual basis for community mental health planning in Michigan.

Miss Naomi I. Grigg, Ontario Hospital Services Commission, 2195 Yonge Street, Toronto, Ontario, Canada, is conducting a study to determine a formula approach for calculating active psychiatric bed needs.

Dr. Myron Koltuv, Ph.D., Institute for the Crippled and Disabled, 400 First Avenue, New York, New York 10010, is conducting a study of the factors involved in the rehabilitation of Vocationally Disadvantaged Mental Patients.

Dr. Joseph W. Lawrence, Director, Lee County Health Department, P.O. Box 1226, Fort Myers, Florida, is conducting a study of mental health problems, resources, and needs in Lee County, Florida, as a pilot project in the course of statewide planning for community-centered comprehensive mental health activities and facilities.

Philip Lichtenberg and Jeanne C. Pollock, Bryn Mawr College, Bryn Mawr, Pennsylvania, are studying special characteristics of clients of public welfare agencies with effective casework techniques, from a mental health point of view, with the aim of providing concepts and an orientation of use to persons planning and rendering mental health welfare services.

Dr. B. E. McLaughlin, Medical School, University of North Dakota, is investigating methodology of teaching medical students, around the focus of a psychiatric clinic.

L. K. Northwood, School of Social Work, University of Washington, Seattle, Washington, is investigating models for preventive psychiatry and for social work.

Mrs. Pearl Roberts, Executive Director, Council House, 220 Grant Street, Pittsburgh 19, Pennsylvania, is conducting a study to determine the role of volunteers in the development of community-centered services to mental patients, describing the development of socialization, vocational preparation, and other supportive services for persons leaving a mental hospital, as well as patients in hospitals, to encourage the maintenance and development of social ties.

Dr. Richard Sanders, Director of Psychological Services, Philadelphia State Hospital, Roosevelt Boulevard and Southampton Road, Philadelphia, Pennsylvania 19114, is conducting a study of means of training new workers for social interaction therapy.

Herbert C. Schulberg, Laboratory of Community Psychiatry, Harvard Medical School, 58 Fenwood Road, Boston, Massachusetts, is studying the factors affecting the transition of an institution's orientation from that of a mental hospital to that of a community mental health center.

Asher Soloff, Jewish Vocational Service, 1 South Franklin Street, Chicago, Illinois 60606, is conducting a study of the effectiveness of a long-term, out-of-hospital rehabilitation workshop program in moving chronic institutionalized schizophrenics toward community living and employment.

Dr. C. M. Smith, University Hospital, Saskatoon, Saskatchewan, Canada, is conducting a study of the effectiveness of the home care service in preventing or minimizing the hospitalization of psychiatric patients, and in supporting patients and their families.

The training branch of the National Institutue of Mental Health, Bethesda, Maryland, is engaged almost entirely in attempting to relieve the manpower shortage in mental health by conducting a training program which encompasses many disciplines in the area.

Mrs. Opal H. White, University of Colorado Medical Center, 4200 East Ninth Avenue, Denver, Colorado 80220, is conducting a study of nursing in community mental health services.

Appendix

SUPPLEMENTAL ANNOTATED BIBLIOGRAPHY

and

GENERAL BIBLIOGRAPHY

SUPPLEMENTAL ANNOTATED BIBLIOGRAPHY

(1)

Abrahams, David, M.D., and Enright, John B., Ph.D.
"Psychiatric Intake in Groups: A Pilot Study of Procedures, Problems and Prospects."
American Journal of Psychiatry, Vol. 122, No. 2, August 1965, pp. 170–174.

Field: psychiatry.
Application: utilization.

Since intake procedures in community mental health centers often take up a dangerously large proportion of valuable staff time, the authors of this study decided to explore the feasibility of evaluating the pathology and motivation of 50 applicants to a public mental health clinic in four intake groups, each of which met for five or eight sessions with a leader and an observer. "Diagnoses proved difficult to make in some cases, but dispositions of most applicants were made with confidence. In comparing the dispositional status of these applicants with others who went through traditional individual intake, no significant differences were found in no-show or dropout rates or in number still in treatment six months later."

(2)

Altenderfer, Marion E., and West, Margaret D.
How Medical Students Finance Their Education: Results of a Survey of Medical and Osteopathic Students, 1963–64, U.S. Dept. HEW, PHS, Publication No. 1336, U.S. Government Printing Office, Washington, D.C., 1965, pp. 110.

Field: medicine.
Application: financing, education.

This study reports the results of a survey of 23,433 medical and 1,348 osteopathic students, conducted in the middle of the 1963–64 school year to find out how much it costs students to attend medical school and where they obtain the money to finance their medical education. Findings are analyzed in the following categories: characteristics of the students, average annual expenses, sources of income, and amount of indebtedness. Among the results of this study is the finding that, although the families of 14 percent of the medical students had incomes of $25,000 or more a year, only 1 percent of all families in the United States had such incomes in 1963. Expenses reported averaged $2,700 annually for single students, and $4,900 for married students. Sources of income included: one-fourth from students' own earnings and savings; another from spouses' earnings; almost one-third contributed by students' families in gifts and loans; one-tenth from loans outside the family; and one-sixteenth from scholarships and other nonrefundable grants.

(3)

Avnet, Helen Hershfield
"Short-Term Treatment Under Auspices of a Medical Insurance Plan."
American Journal of Psychiatry, Vol. 122, No. 2, August 1965, pp. 147–151.

Field: psychiatry.
Application: financing.

This article describes a GHI-APA-NAMH experiment to test a community plan for short-term insurance, serviced by psychiatrists in private practice. Under this plan, "coverage was available on a private, confidential basis at the time it was needed . . . The majority of patients had never had treatment before, although reporting conditions of long standing; there is no question that the project removed many of the financial and psychological barriers which previously prevented them from seeking treatment." It is further noted that, as judged by a two- to three-year followup study, brief psychotherapy of up to 15 weeks of individual or 37 weeks of group therapy, produces marked beneficial results in four-fifths of the patients.

(4)

American Medical Association.
AMA 2nd National Congress on Mental Illness and Health; Theme: Community Mental Health Services and Resources—Mobilization and Orientation.
Proceedings of Conference: November 5–7, 1964, sponsored by the AMA Council on Mental Health, p. 418.

Field: mental health fields.
Application: reorganization.

"The purpose of the Second National Congress on Mental Illness and Health is to orient physicians, particularly those in private practice, and interested community leaders toward activating and participating in effective mental health programs at the community level."

Findings of lecture and discussion groups at the conference were that: (1) Progress in developing better cooperation between physicians and the mental health agencies lies in working on the problems of immediate concern in the physician's own practice and community; (2) lectures and printed matter can be preludes to training, but not much more; (3) real progress is made while people of different training work and talk together about problems of immediate and urgent interest.

Subjects of workshop discussions included: manpower; enlisting community support; coordinating mechanisms; regional planning; psychiatric services in general hospitals; state and private psychiatric hospitals; the role of the private practitioner, etc.

(5)

Bahn, Anita K., Sc.D.
"An Outline for Community Mental Health Research"
Community Mental Health Journal, Vol. 1, No. 1, Spring 1965, pp. 23.

Field: community mental health.
Application: research.

This paper presents a conceptual model of a comprehensive community mental health research program. The two important aspects of this program are: (1) utilization of periodic surveys of the demographic mental health, and attitudinal characteristics of the community population, and (2) utilization of agency reports on patients which have been collated into longitudinal records through a psychiatric or parapsychiatric register.

Such integrated studies should aid in the understanding of the etiology of mental illness, and provide the systematic data necessary for the evaluation of the service programs that will be established in the community.

(6)

Barker, Anna E., M.A., M.P.H., and Staton, Earl E., M.A.
"Inactive Nurses: An Untapped Recruitment Source."
Public Health Reports, Vol. 80, No. 7, July 1965, pp. 637–645.

Field: nursing.
Application: recruitment, utilization.

This article reports the results of a 1963 study of Kentucky nurses registered as inactive, conducted by the Kentucky Mental Health Manpower Commission. A questionnaire and followup survey were employed to obtain data on the nurses' family status, educational history, work record, and other related factors. The primary purpose of the study was to determine why nurses are inactive, the extent to which they may be expected to return to nursing, and to try to find new methods of easing the shortage of nurses in mental health facilities.

Results of the study show that in Kentucky at least approximately one out of every two inactive nurses who maintain their registration in Kentucky eventually return to nursing.

"Generally, the nurse who will reenter the field is under 50 years of age, has one to three children, and has received her training fairly recently. The nurse who plans to return prefers a part-time staff position in a hospital setting. Previous psychiatric work experience or formal psychiatric training seems to have little effect on the selection of psychiatric nursing as a specialty. Lack of available care for children is a major obstacle to the nurses' reentry into the field.

(7)

Brieland, Donald.
"The Efficient Use of Child Welfare Personnel"
Children, May–June 1963, Vol. 12, No. 3, pp. 91–96.

Field: social work.
Application: utilization.

The key to the growing manpower problem in social services, according to this article by the director of the Illinois Department of Children and Family Services, may lie as much in the way existing personnel is used as in a broader conception of staff development and recruiting. The concept of differential use of manpower, with the goal of the provision of more service more effectively administered, is outlined, with the following subgoals: (1) to maximize the contribution of professionally trained workers, (2) to facilitate efficient and rapid development of skills for younger professional workers; (3) to utilize the energies of workers who have only bachelors' degrees, so that they are engaged in the tasks most adequately suited to their skills; (4) to differentiate roles and tasks to make possible the most efficient orientation and staff development programs; (5) to put as much effort as possible into direct services to children and families without neglecting the obligation for reporting; and (6) to provide staff at all levels with career lines, a sense of status and responsibility, and an agency climate that will result in good morale and a high rate of staff retention.

Eight levels of personnel, ranging from former public assistance recipients to caseworkers with at least an M.S.W. are also considered.

(8)

Campbell, Robert J., M.D.
"Psychotherapy in a Community Mental Health Center."
American Journal of Psychiatry, Vol. 122, No. 2, August 1965, pp. 143–147.

Field: psychiatry.
Application: utilization, education.

This article discusses the psychiatric program of St. Vincent's Hospital and Medical Center in New York City. Goals of this community-oriented clinic are early detection of illness, speedy admissions and appropriate treatment, and early return to normal functioning.

The clinic was organized, in 1956, along the traditional lines of regularly scheduled patient-therapist sessions of 50 minutes' duration. It soon became obvious, however, that such methods failed to meet the needs of the community, and efforts were made to shift from intensive work with individual patients to briefer and more directive approaches, both individual and group, and to environmental manipulation. In summary, "We have come to believe that most of our patients are best handled by a brief contact approach, consisting of (1) early and rapid evaluation by a physician, and (2) prompt initiation of limited directive measures aimed at alleviation of existing symptoms with psychopharmacologic agents, and/or guidance, counseling, environmental manipulation, family conferences and the like to restore equilibrium to the social unit of which the patient is a part, and/or referral to the community agency that can cope most competently and effectively with the psychosocial pathology."

(9)

Castelnuovo-Tedesco, Pietro, M.D.
The Twenty-Minute Hour, A Guide to Brief Psychotherapy for the Physician
Little, Brown and Co., Boston, 1965, pp. 184.

Field: psychiatry.
Application: utilization.

This book offers the physician in general practice a guide to the technique of short-term psychotherapy for the less complicated emotional disturbances seen in the everyday practice of medicine. Subjects dealt with include a thorough discussion of the initial examination and instructions for taking the patient's case history: identifying the patient's major psychiatric difficulties and selecting appropriate treatment goals; the course of treatment, with descriptions of various therapeutic approaches; the termination of treatment; problems incurred in dealing with the patient's family; the use of drugs as therapeutic aids; circumstances in which brief psychotherapy is contraindicated; and the question of when to refer the patient to a psychiatrist. This book is based on the author's conviction that "systematic attention to the emotional difficulties of the patient (psychotherapy) should be an integral part of the practice of medicine and that it can do much to enhance the value and success of the doctor's intervention in behalf of his patient."

(10)

Cytryn, Leon, M.D., and Uihlein, Audrey, B.A.
"Training of Volunteers in the Field of Mental Retardation—an Experiment." *American Journal of Orthopsychiatry*, Vol. 35, No. 3, April 1965, pp. 439–499.

Field: mental health.
Application: volunteers, utilization, recruitment.

This article describes a Domestic Peace Corps experimental project which utilized adolescent volunteers for eight months in an institution for the mentally retarded. The problems inherent in such a program are also discussed. Under this program, seven adolescent high school and college students were assigned to individual retarded children and had contact with them at least once a week. Informal weekly meetings were also held with a psychologist and a child psychiatrist; these meetings included some theoretical discussions centering around mental retardation and child development and supervision of individual cases.

Results of the study confirmed the authors' assumptions that: (1) adolescents on the high school and college level can be used successfully on a voluntary basis in institutions for the mentally retarded in helping to provide personalized care for individual children; and (2) gifted adolescents can be attracted to the field of mental retardation by a properly planned and supervised contact with mentally retarded children.

(11)

Denber, Herman C. B., and Rajotte, Paul
"Rapid Intensive Treatment of Impending Relapse."
American Journal of Psychiatry, Vol. 117, No. 1, July 1960, pp. 74–75.

Field: pscychiatry.
Application: utilization.

In this study of 15 convalescent outpatients it was shown how intensive "inhospital chemotherapy" can prevent impending relapse or psychotic breakdown in a majority of cases. Although treatment included participation in ward social therapy programs during the five-day period in which the patients were rehospitalized, major emphasis was on chemotherapy.

If remission of symptoms occurred after the five-day period the patient returned to the community. If only partial improvement was noted, the patient returned home for the weekend and then returned to the hospital for further care. At the end of this second period the patient was either released or formally readmitted, depending on his condition.

This procedure avoids the breakdown of the reciprocal relationship in the family caused by prolonged hospitalization and also prevents "hospital induced" symptoms. It also encourages the patient to seek treatment spontaneously, as he knows hospitalization will be for only a short period.

Of immediate importance is the fact that the 11 patients returning to the community required only 71 days' total hospitalization as opposed to 1,485 days probably required if relapses had occurred in the group. The emphasis on prevention in this method not only frees needed facilities, but also permits more effective utilization of professional time and talent.

(12)

Douglas, Ann M., M.S.
"Social Factors Which Affect Career Choice in Psychiatric Nursing."
Studies in Sociology Abstract Series, Vol. 16, The Catholic University of America Press, Washington, D.C., 1961, pp. 20.

Field: psychiatric nursing.
Application: recruitment.

This dissertation studies the social factors which affect recruitment in psychiatric nursing. Areas of possible influence considered are the school of nursing, the hospital, role expectations, role confusion, involving reference groups, and interpersonal relations in all major areas. The only definite conclusion drawn is that the student who did better in a graded performance in psychiatric nursing than in other nursing areas would probably make psychiatric nursing her first choice.

(13)

Dykens, James W., M.D.
"Nursing Homes: A Dim Band in the Mental Health Spectrum."
American Journal of Psychiatry, Vol. 122, No. 3, September 1965, pp. 320–323.

Field: mental health.
Application: utilization.

Nursing homes represent a valuable community resource for meeting the needs of the aged in the community.

The author feels, however, that in the attempt to move elderly persons out of the overcrowded state hospitals, insufficient attention may be put on the needs of the individual in placement. He suggests that the psychiatrist make himself available to nursing home personnel, as well as to patients, for dynamic, sociological, administrative, and individual consultation.

Finally, the positive mental health influence of the nursing home ". . . can be strengthened without greatly increasing the budgets of mental health agencies. Nursing homes can become a brighter band in the spectrum of mental health services if the psychiatrist and his mental health colleagues are willing to put them on their personal agendas of mental health activities and interests."

(14)

Falk, Leslie A., M.D., D.Phil.
"Current Patterns of Health Care Mental Health Services in Collective Bargaining and Prepaid Group Practice."
American Journal of Orthopsychiatry, Vol. 35, No. 4, July 1965, pp. 707–716.

Field: psychiatry.
Application: financing.

According to this article, specialization has resulted from increased knowledge, but so has fragmentation of care. Trade union collective bargaining health agreements have extended certain prepaid medical care benefits, but psychiatric care is covered only initially. However, "The United Mine Workers of America Welfare Fund includes certain mental health service among its benefits. Provision of psychopharmaceuticals for ambulatory or homebound patients is extensive. Some medical group practice plans in coal mining communities provide psychiatric and social services." Also discussed briefly are psychiatric services in other prepaid group practice plans and under some other collective bargaining agreements.

(15)

Freeman, H. L.
"Psychiatric Day Hospitals."
Oxford Medical School Gazette, Vol. II, 1959, pp. 119–125.

Field: mental hospitals.
Application: utilization.

The author shows that the day hospital is the logical answer to the problem of overcrowding in mental hospitals. In various experiments in England the day hospital was found to be therapeutically effective in terms of professional treatment, with the added advantage of allowing the patient to remain in contact with his family and social environment. The most significant aspect of day hospital care is the fact that it has reduced the cost of treatment to one-third of the inpatient expense.

(16)

Freeman, Howard E., Ph.D.
"Social Change and the Organization of Mental Health Care."
American Journal or Orthopsychiatry, Vol. 35, No. 4, July 1965, pp. 717–722.

Field: mental health.
Application: reorganization.

"Current planning and action efforts in the health and welfare fields are stimulating and demanding further reorganization of mental health programs. In this paper the social forces impinging on current mental health practices are noted, the direction of changes in mental health programs is described, and speculations on the shifts in organizational and role relationships among mental health practitioners are provided."

(17)

Friedman, T. T., *et al.*
"Home Treatment of Psychiatric Patients."
American Journal of Psychiatry, Vol. 116, No. 9, March 1960, pp. 807–809.

Field: psychiatry.
Application: utilization.

This report of a small home treatment service shows a useful technique for dealing with inaccessible patients such as those who have broken off outpatient treatment for various reasons. The doctor and social worker work in the home and cooperate with various community agencies. Appropriate alternatives to hospitalization were worked out by achieving equilibrium in the home environment.

(18)

Garland, Joseph, M.D., and Stokes, Joseph, III, M.D.
The Choice of a Medical Career: Essays on the Fields of Medicine.
J. B. Lippencott Co., Philadelphia, 1962, pp. 260.

Field: all health fields.
Application: recruitment.

This book consists of a number of original essays by prominent doctors, describing the pleasures and difficulties of practice in their fields. Specialties considered include psychitary, internal medicine, surgery, pediatrics, physical medicine, and rehabilitation, etc.

The purpose of the book is "to convey to the student or the physician on the threshold of a medical career as complete a picture as possible of the profession to which he is dedicating himself and the opportunities that it presents. On a practical level it is intended to serve as a guide for the channeling of his life within that profession."

(19)

Gorman, Warren F., and Vetter, John J.
"Psychiatric Medical Management."
Journal of the American Geriatrics Society, Vol. 9, April 1961, pp. 288–293.

Field: psychiatry.
Application: utilization.

Psychiatric-medical management is defined as a combination of psychiatric and medical care provided by a team composed of a psychiatrist, physician and various medical therapists. These persons, along with the patient's family, friends and business associates, interact to manipulate extensively the patient's environment. This method does not aim at helping the patient gain insight into his emotions, etc., but tries to provide him with a "bridgehead to reality" and the ability to function in the world of reality.

In order to guard against excessive anxiety, partial regression to lower levels of emotional maturity is encouraged through drugs.

The emphasis is on supportive psychotherapy as the patient is led to depend on and accept the guidance of his personal physician. Frequent contact between the team and the family help in structuring the best possible environment.

The authors feel that the home is the best site for management therapy, although the psychiatric ward of a general hospital can be employed.

(20)

Greenblatt, Milton, and Levinson, Daniel J.
"Issues in a Therapeutic Organization."
Psychiatric Research Reports 11, American Psychiatric Association, December 1959, pp. 11.

Field: administration.
Application: organization.

Problems of administration and hospital organization are considered.

(1) Administrative power should be distributed, ideally, through group discussion and by vote of the hospital personnel.

(2) Primary goal commitments of management toward patient care should be formulated explicitly to provide the best therapeutic climate for the majority of patients. The general tone set for the institution should allow exceptional care for manic patients and manipulative patients who may require strict limit-setting.

(3) The kinds of staff-patient relationships which are most therapeutic should be given further research to determine whether only the psychiatrist may be considered as giving therapy or whether every person who comes in contact with the patient may be considered potentially helpful.

(4) The freedom which the patient shall have in determining relations with others should be based on elective affinities as they develop naturally, rather than assigned, provided the less attractive patient is not neglected.

(5) Policy changes should be a continual and orderly process of innovation.

(6) The administrator is the key figure in dealing with the above problems.

(21)

Hall, Bernard H., M.D., *et al.*
Psychiatric Aide Education.
Grune and Stratton, New York, 1952, pp. 168.

Field: mental health fields.
Application: ancillary personnel.

This book reports the results of a psychiatric aide education project conducted at the Topeka State Hospital, by the Menninger Foundation, with the aim of producing competent personnel to provide nursing care for hospitalized mental patients. The Menninger Foundation School for Psychiatric Aides was organized with two primary objectives: to discover efficient methods of teaching psychiatric aides, and "to graduate a small number of well-trained, competent aides who would emerge as leaders for the psychiatric aide group . . ."

The unifying principle which determined every aspect of training was the conviction that every human personality has worth, . . . that there can be no acceptance by the psychiatric aide of the hospital "back ward." It is imperative, therefore, that the influence of the psychiatric aide, who works daily with the patient, be a constructive one.

The method used by the school is described as utilizing both didactic instruction and closely supervised clinical experience in an intensive 12-month training program.

(22)

Highlights from Survey of Psychiatric Aides.
Manpower Studies Unit, NIMH, NIH, U.S. Dept. HEW, PHS PHS Publication No. 1151, April 1964, pp. 18.

Field: mental health.
Application: ancillary personnel.

This report presents a summary of information gathered by the National Association for Mental Health on a number of characteristics of the psychiatric aide and his job setting in state and county mental hospitals in the United States.

Topics covered include aide employment and training patterns, total number employed, annual salaries, job satisfaction, work characteristics, and general attitudes of aides and nurses about the job of the psychiatric aide.

The total number of aides in the state and county hospitals surveyed was 96,200 in March of 1963; the greatest concentration of aides (approximately one-third of the total) are employed in hospitals in New York, California, Pennsylvania, and Ohio. Two hundred ten of the hospitals surveyed reported formal training programs which included classroom work or supervised training on the ward. The needs for more extensive aide training and for more personnel were emphasized.

(23)

Jackson, Jay, Hiebert, Joyce, and Preston, Ray.
"Methods for Studying Mental Hospitals: An Annotated Bibliography."
(Prepublication draft) ***Comparative Studies of Mental Hospital Organization***, University of Oregon, Department of Sociology, January 1965, pp. 25.

Field: mental health.
Application: research.

For a number of years the authors have been engaged in a program of comparative studies of mental health organization. This paper is a catalog of 40 questionnaires that have been used in various research problems in studies of mental hospitals. Each of the 40 techniques is described as to purpose, description, use, where available, and references.

(24)

Kanter, Louise, Ph.D.
State of California Department of Mental Hygiene.
A Mental Health Service in a Negro Community, October 1964, p. 13.

Field: mental health.
Application: general.

One of a series published by the California State Department of Mental Hygiene in an effort to "identify programs which have special relevance for the provision of direct psychiatric services to low income and minority groups," this report describes the department of psychiatry at Harlem Hospital in New York City. The program of this department is expressly oriented to serving the community in which it is located, the population of which is 80 percent Negro; to this end, a psychiatric residency program was developed with Columbia University Medical School.

Services of the department include inpatient and day and night care, child and adult outpatient clinics, emergency psychiatric service, and consultation to nonpsychiatric agencies in the community. The staff of 59 persons includes 28 psychiatrists, and a large proportion of the medical staff is Negro. Treatment modalities utilized include group, individual, and family therapy, and social work and home visits. Finally, free use is made of medicine as a psychological adjunct to therapy. This publication also includes a selected annotated bibliography of relevant sources.

(25)

Kinder, Eugene, and Daniels, Robert S.
"Day and Night Psychiatric Treatment Centers Description; Organization and Function."
American Journal of Psychiatry, Vol. 119, November 1962, pp. 415–420.

Field: mental hospitals.
Application: utilization.

The authors describe a day and a night center which utilize the same physical facilities. The day center is a treatment center for patients who do not require full-time hospitalization and for those who need help in reestablishing work patterns, interpersonal relationships, and general social orientation. Group activity therapy, group psychotherapy, psychodrama, work, occupational and recreational therapy are the main courses of treatment.

The night center acts mainly as an intermediate residence between the hospital ward and discharge. It is also used by patients who have no family or other environmental supports at the time of discharge. Emphasis in both centers is responsibility, collaboration, freedom and open communication.

(26)

Klerman, Gerald L., M.D., Sharaf, Myron R., Ph.D., Holzman, Mathilda, M.A., and Levinson, Daniel J., Ph.D.
"Sociopsychological Characteristics of Resident Psychiatrists and Their Use of Drug Therapy."
The American Journal of Psychiatry, Vol. 117, No. 2, August 1960, pp. 111–117.

Field: psychiatry.
Application: utilization.

A study was conducted at the Massachusetts Mental Health Center in Boston, a hospital affiliated with the Harvard Medical School. Twelve resident psychiatrists, constituting the entire group or residents assigned to inpatient adult services, were given a number of sociopsychological tests. The most conclusive test used was the F Scale, which measured the psychiatrists' authoritarianism. As a group, the resident psychiatrists were strongly nonauthoritarian with all scores below the midpoint on the scale. Nevertheless, the F Scale scores correlated highly with the index of drug use. The higher a psychiatrist's score on the F Scale, the more likely were his patients to receive drug therapy. The higher scoring psychiatrists were willing to assume the degree of authority necessary to use every reasonable means to promote symptom-reduction and to relieve the patient's distress. The low-scoring psychiatrists preferred treatments which maximized the patient's role in his own treatment. They may, also, have perceived the use of drugs as an indication of the failure of their psychotherapeutic efforts.

(27)

La Vietes, Ruth L., M.D., Hulse, Wilfred C., M.D., and Blau, Abram, M.D.
"A Psychiatric Day Treatment Center and School for Young Children and Their Parents."
American Journal of Orthopsychiatry, Vol. 30, No. 3, July 1960, pp. 468–482.

Field: psychiatry, ancillary personnel.
Application: education.

This paper describes a day treatment center and school, affiliated with Mount Sinai Hospital in New York City. This center is operated for the benefit of disturbed school children and their families. At the initiation of the service, in 1956, 27 children were admitted; preliminary studies of the efficacy of this type of therapy suggest that "for certain types of children, there was substantially greater benefit than could be expected from other community resources. The conclusion is that this type of facility provides a necessary and often preferable service to certain disturbed children. It also has value as a training center for child psychiatrists, social workers, and teachers, as well as a resource for research in child psychiatry and special education."

(28)

Levinson, Daniel J., Ph.D.
"The Psychotherapist's Contribution to the Patient's Treatment Career."
Research in Psychotherapy, Vol. 2, National Institutes of Health, pp. 13–24.

Field: psychiatry.
Application: research, utilization.

This report concerns the therapist's influence on the "patient's treatment career" in the following spheres: (1) the personal-social characteristics of the therapist; (2) the personal-social characteristics of the patient; (3) resemblance between patient and therapist in personal-social features; (4) stages in the treatment career distinguished as candidacy stage, initial stage of therapist-patient relationship, stage of productive work, pre-termination stage; (5) the institutional setting of treatment in clinic or hospital as it facilitates or hinders the course of therapy; (6) the social context of the patient's life as influenced by family, friends, and other sectors of the community.

(29)

Mechanick, Phillip, and Nathan, Robert J.
"The Community Psychiatric Hospital."
Archives of General Psychiatry, Vol. 10, No. 3, March 1964, pp. 284–291.

Field: psychiatry.
Application: reorganization.

The authors point out that isolation and rejection of the mentally ill can be avoided if the mental hospital is integrated into the community it serves. In such community hospitals as the Philadelphia Psychiatric Center the patient is not estranged from society for the hospital itself is integrated into the community. For example, the hospital board of trustees itself bridges the gap between the hospital and the community. There is a dynamic interplay between the professional staff and the lay group also.

(30)

Medical World News.
"Total Care Moves Into the Home," March 26, 1965, Vol. 6, No. 11, pp. 63–65.

Field: medicine.
Application: utilization.

This article describes a number of home care programs currently being instituted in order to combat the increasing overcrowding of general hospitals and pyramiding hospital costs. In New York City, for example, Blue Cross, Blue Shield, and 22 participating hospitals, working together, have provided home care service to more than 5,000 patients since 1961, at an estimated saving of 113,196 days of in-hospital care, $1,508,840 for Blue Cross, and $2,139,320 for patients. In New York, the Blue Shield plan pays the doctor for home visits in addition to an allowance for his supervisory work in planning with nurse, physical therapist, social worker, and others for optimum service. The doctor may receive up to the same amount he would have been paid had the patient remained in the hospital. In the words of Dr. James C. Doyle, past president of the California Medical Association, "through coordinated planning, evaluation, and followup procedures, a good home-care program is centrally administered and provides for physician-directed medical, nursing, social, and related services."

(31)

Mendel, Werner M., and Rapport, Samuel.
"Outpatient Treatment for Chronic Schizophrenic Patients."
Archives of General Psychiatry, Vol. 8, No. 2, February 1963, pp. 190–196.

Field: psychiatry.
Application: utilization.

The authors state that the solution to the problem of treating the large number of schizophrenic patients in our hospitals is to determine the cause of the disease, and then to apply a simple remedy. Unfortunately, schizophrenia appears to be caused not by one simple factor, but is a complex psychobiological reaction to a multitude of social, somatic, genetic and psychological forces.

In view of this, a method of outpatient care, based on an existential concept of the illness and the therapeutic process, is proposed. The schizophrenic is understood to manifest disorganized behavior because of his disorganized perception of both the internal and the external world. Consequently, therapeutic intervention is directed at facilitating the patient's reorganization of his internal and external worlds, and of leading him to perceive his future as open rather than closed.

One hundred sixty-six patients received therapy once a month over a period of 51 months in 20- to 30-minute sessions. Fifty-seven percent of them continued to receive tranquilizers in conjunction with psychotherapy. At the end of the period studied, 70 percent of the patients were able to function adequately as outpatients. Especially significant is the fact that psychiatric aids provided psychotherapy for 47 of the patients with treatment results comparing favorably with the results obtained by the psychiatrists. The authors conclude that utilizing nonprofessional personnel is the best means of treating the large schizophrenic patient population because the existential approach and treatment techniques were easily taught to the nonprofessionals and they were able to manage psychotherapy quite successfully.

(32)

Mental Health Manpower Current Statistical and Activities Report.
"Selected Characteristics of Nurses Employed in Mental Health Establishments, 1963."
U.S. Dept. HEW, PHS, July 1965, No. 7, p. 9.

Field: mental health nursing.
Application: general.

This report contains an analysis and discussion of data submitted to the Mental Health Manpower Studies Unit of the National Institute of Mental Health by 18,010 professional nurses employed in mental health settings. Approximately 18,500, or 3.5 percent, of the 532,000 professional/registered nurses in the United States fell into this category in the period from December 1962 through May 1963. Findings of the survey revealed that: psychiatric nursing attracts a relatively high percentage (7 percent) of male nurses; nurses employed in mental health establishments, as a group, have attained a substantially higher level of education than have nurses in general; as level of education increases, the extent of participation in patient care decreases, and that in administration and teaching increases; and finally, three-fourths of all psychiatric nurses are employed in public mental hospitals while public institutions for the mentally retarded and private hospitals for the mentally ill employed 10 percent and 8 percent respectively.

(33)

Mental Health Manpower Current Statistical and Activities Report.
"Selected Characteristics of Psychologists Employed in Mental Health Establishments, 1963."
U.S. Department of HEW, PHS, February 1965, No. 4, p. 8.

Field: psychology.
Application: general.

This report presents an analysis of data submitted to the Mental Health Manpower Studies Unit of the National Institute of Mental Health by 4,975 psychologists at doctorate and lower levels employed in mental health establishments in 1962 and 1963. Approximately half of the psychologists in the sample had a Ph.D. degree, 40 percent had a master's degree, and 10 percent reported only a B.A. Seven percent of all psychologists responding, and almost 15 percent of those with a Ph.D., were certified by the American Board of Examiners in Professional Psychology. Average hours per week by activity show that approximately 20 hours per week are spent in patient care, five in research, five in consultation, four in administration, and two in teaching. Finally, it is reported that roughly three out of five psychologists are employed in outpatient clinics, while half as many have an affiliation with a public mental hospital.

(34)

Miller, Arthur A., and Sabshin, Melvin.
"Psychotherapy in Psychiatric Hospitals."
Archives of General Psychiatry, Vol. 9, 1963, p. 53.

Field: psychiatric nursing.
Application: reorganization, utilization.

As psychiatric hospitals have become more and more treatment oriented, the function of the nurse has transcended mere "caretaking." The nurse is required to interact with the psychiatrist and the patient in producing therapeutic effects. Her efforts may be supplementary, complementary or neutralizing in respect to the psychiatrist's treatment methods, but overall planning is necessary to ensure that the nurse's potential is effectively interwoven in the therapeutic milieu.

(35)

Montgomery, Helen B.
"Differential Utilization of Social Work."
Children, Vol. 11, No. 3, May–June 1964, pp. 103–107.

Field: social work.
Application: utilization.

The Spence-Chapman Adoption Agency, in New York, came to the following conclusions: (1) The manpower shortage in social work had to be realistically recognized. (2) Offering to highly qualified social work personnel on the agencies staff increased opportunities for practice in leadership would make it possible to use those key staff members to best advantage. (3) Greater fulfillment of the agency's educational responsibility in social work training and field instruction was inescapably related to the improvement of its services. As a result the differentiation was clarified between those tasks which demand fully trained professionals and those that can be carried out (under supervision) by students and beginning workers. They claim good results.

The agency was administratively reorganized. A number of criteria were used in selecting supervisors, including personal and professional characteristics. Professionals deal with the intake aspect, which has resulted in a knowledgeable matching of caseworkers and clients, as well as the removal of the waiting list. Also the concept of "one client with the same worker" has been abandoned, resulting in an increase in efficiency on the part of the worker. The agency has also begun increasingly to take in students. Each student receives a number of cases, and is supervised in them. He also attends seminars. The agency also hires part-time students on a work-study basis, despite the fact that they are not completely qualified.

(36)

Morris, Fred C.
"A Plan for Training Women in Engineering."
Engineering Education, Vol. 60, 1953, pp. 174–176.

Field: engineering.
Application: education.

There are many bright young women in college with technical ability and many more graduating from high school. There is a lack of men for technical work and an untapped supply of women. The U.S. Office of Education presents short courses for women, and many plants have their own courses at colleges. Since many women could go into teaching engineering it is suggested that an extra year for a master's degree be introduced.

(37)

National Science Foundation.
Scientific Manpower: 1962, Washington, D.C., 1962, p. 46.

Field: general.
Application: education, recruitment.

This volume contains a summary of events relating to scientific and technical manpower during 1962 and of papers read at the 11th Annual Conference on Scientific Manpower. The The general theme of this conference was "Community Programs for Motivation to Science and Engineering Training," aimed at the secondary school student.

Papers presented included a discussion of industry-school cooperation in science instruction, involving corporations such as General Electric and Bell Telephone in local efforts; problems of the counselor in public schools and some possible solutions; high school counseling from the viewpoint of the student; and descriptions of other programs designed to interest the student in science careers, such as the Franklin Institute Program in Philadelphia and the programs of the Junior Engineering and Technical Societies.

(38)

Rafferty, Frank T., M.D.
"Symptoms and Process in the Multidisciplined Community."
American Journal of Orthopsychiatry, Vol. 34, No. 3, April 1964, pp. 569–574.

Field: mental health.
Application: utilization, organization.

The shortage of qualified personnel to work with the mentally ill has reached dangerous proportions. However, instead of working together on the overall task, "each discipline defines a well-bounded area of competence, interest, and effort. It proceeds efficiently to develop procedures and techniques to the minutest detail within this area and to defend a variety of discipline and agency identities from any encroachment from others." Referral services and the "multidisciplinary team" are also discussed.

(39)

Raup, Ruth M., and Williams, Elizabeth A.
"Negro Students in Medical Schools in the United States."
Journal of Medical Education, Vol. 39, May 1964, pp. 444–450.

Field: medicine.
Application: recruitment, education.

This article provides a summary of statistical data available on medical schools enrolling Negroes, on schools open to Negro applicants, and on Negro students attending medical schools. Conclusions are that "over the past 25 years the number of U.S. medical schools accepting Negro students has increased markedly. Almost all the schools are now open to qualified Negro applicants. There has been a less striking rise in the numbers of Negro students attending medical schools. Recently, the number of Negro students in predominantly white medical schools has actually decreased. However, the total number of Negroes in medical school has more than doubled since 1938–39 and has increased by about 10 percent since 1955–56."

(40)

Reese, Dorothy E., Siegel, Stanley E., and Testoff, Arthur.
"The Inactive Nurse."
American Journal of Nursing, November 1964, Vol. 64, No. 11.

Field: nursing.
Application: recruitment.

According to this article, the nurse/population ratio in the United States increased from 249 per 100,000 in 1950 to 297 per 100,000 in 1962, even though the rate of graduation from basic schools remained almost constant at 30,000 per year. This increase was due largely to the return of inactive nurses, many of whom work on a part-time basis.

In order to determine why these nurses are inactive, and what their future plans are, the Division of Nursing of the Public Health Service in 1961 initiated studies in 12 states of inactive but currently registered nurses. Response rate to their questionnaire was 78 percent. Responses showed that of the 10,141 inactive nurses responding, 44 percent planned to return to work, 55 percent did not, and 1 percent did not respond. Projections show that of the approximately 230,000 professional R.N.'s currently inactive, from 74,000 to 131,000 might return to work over a period of several years. This article stresses that it is important that the inactive nurse maintain her skill if she is to return to work, because of the rapidity with which nursing techniques and materials change. Finally, "There is an increasing emphasis on meeting the medical and nursing needs of the chronically ill and aged in the home rather than in institutions. It is noteworthy that more than one-third of the nurses planning to return expressed an interest in giving bedside nursing care to patients at home."

(41)

Ruesch, Jurgen.
"The Treatment of Acute Psychosis."
Journal of Neuropsychiatry, Vol. 3 (Suppl.), August 1962, pp. 122–129.

Field: mental health.
Application: psychiatry.

This is a report of 100 acute psychotic patients received at the acute treatment service of the Langley Porter Neuropsychiatric Institute. During an average stay of 40 days, these patients received a combination of social, somatic, pharmacological and psychological treatments. When discharged the patients received some kind of followup care. After six months only five patients had been rehospitalized.

The author concludes that patients need not undergo long-term hospitalization but can be released while still in the "throes of the psychosis" as long as adequate followup care and medications are provided. Modern drugs can mask the psychosis and the patient is able to live at home. This treatment program aims at helping the patient accept the physical and social reality that constitute his environment.

(42)

Schiffer, Mortimer.
"The Use of the Seminar in Training Teachers and Counselors as Leaders of Therapeutic Play Groups for Maladjusted Children."
American Journal of Orthopsychiatry, Vol. 30, No. 1, January 1960, pp. 154–165.

Field: ancillary personnel.
Application: education.

A program of aid to disturbed children in New York City through therapeutic play groups is described. Several such groups were active in elementary schools, with the objective of helping "young children who have problems in personal and social functioning." It is also hoped that the application of mental health practices will be spread to the classroom by the teachers who have participated in the program. Play sesssions are conducted by a volunteer teacher, working with a guidance counselor. The teacher screens her class for pupils whom she considers seriously disturbed, and interviews are held with the parents.

The play group setting is permissive, and allows the child to establish a meaningful relationship with an adult. It has been found, in the 14 years since the inception of the program, that "use of the open seminar in supervising play group workers in school settings has proved to be advantageous. Supervision of this type not only provides specific control of the play group practice but has other, derivative, gains. The interest and participation of other teachers broadens their knowledge of child behavior and helps them to function more effectively in the classroom."

(43)

Schulberg, Herbert C., Ph.D.
"Private Psychiatric Services in Massachusetts."
Submitted for Publication in New England Journal of Medicine, April 1965, pp. 13.

Field: mental health.
Application: organization.

The results of a survey conducted by the Mental Health Planning Project in Massachusetts determined the nature and scope of services available to the community through private practice. Information was obtained about such factors as: (1) treatment policy; (2) waiting time, showing that treatment is available with much less delay than at a public clinic; (3) patient loads average 32 different patients seen in private practice; (4) services provided where most frequently psychotherapeutic and psychoanalytic sessions with individuals, and electric shock treatments; (5) hospital relationships are significant; private psychiatric hospitals are used most frequently; (6) financial arrangements are discussed only as they are made for welfare patients and affected by insurance coverage.

(44)

Sharaf, Myron R., and Levinson, Daniel J.
"The Quest for Omnipotence in Professional Training: The Case of the Psychiatric Resident."
Psychiatry: Journal for the Study of Interpersonal Processes, Vol. 27, No. 2, May 1964, pp. 135–149.

Field: psychiatry.
Application: education.

"Various writers . . . have suggested that the psychiatrist . . . is often regarded as a magically omnipotent figure by the public—and by himself." This report deals with the results such a search for omnipotence may have on the eclectic resident or on the analytic resident.

Possible detrimental effects are:

(1) The student may become ineffective by attempting to learn everything and so learn nothing well.

(2) He may simply parrot an admired teacher, without developing independent views.

(3) "In the beginning phases it is easier to give credit to one's supervisor, even to the point of exaggerating his actual contribution."

(4) An exaggerated positive view of his teacher may help the student to face adverse criticism regarding his teacher or his field.

(5) Youthful enthusiasm is an important element in growth and stems naturally from an exaggerated view of the value of the mentors and their teachings.

(45)

Silverman, Albert J., M.D.
"New Horizons in Undergraduate Psychiatric Education."
The American Journal of Psychiatry, Vol. 122, No. 1, July 1965, pp. 68–71.

Field: psychiatry.
Application: education.

Because an understanding of human behavior is so important to the successful practice of any branch of medicine, almost all American medical schools now teach psychiatry in the preclinical years. For many reasons, however, psychiatry has remained peripheral to the mainstream of medical education.

One central problem, which affects medical education generally, is that of "how to break down preclinical and clinical discipline barriers and better incorporate the data of the basic sciences—chemical, physiological, psychological, and sociological into the teaching of the clinical practice of medicine."

An alternative to the usual fragmented approach to the teaching of psychology is offered in ". . . the formation of a dedicated teaching group which spans the breadth of the material to be taught." In this way, a cross-disciplinary approach may be presented on a structured framework.

Curriculum content and techniques of small group instruction are also discussed.

(46)

Southern Regional Education Board.
Psychologists for Schools.
Atlanta, Ga., 1959, p. 43.

Field: psychology.
Application: education, recruitment.

This pamphlet describes a two-year psychology project of the Southern Regional Education Board which aimed at (1) clarifying the role of the school psychiatrist and (2) stimulating formulation of university programs preparing psychologists to fill this role. During the two-year period, five southern universities made substantial progress in the development of doctoral programs for training school psychologists. Also, university departments of education and psychology were brought closer together through the cooperative planning of such programs. It is stressed that the experimental nature of present doctoral programs requires continued communication between the university and the school system, and that the academic curriculum of such programs needs constant restudy and evaluation.

(47)

Tannenbaum, Gerald, M.D., Pinsker, Henry, M.D., and Sager, Clifford J., M.D.
"The Shoestring Day Hospital."
American Journal of Orthopsychiatry, Vol. 35, No. 4, July 1965, pp. 729–732.

Field: psychiatry.
Application: utilization.

This article describes the therapeutic milieu of the community oriented general psychiatric service of Metropolitan Hospital in New York City. It is concluded that "the service provided to the community by a small, multipurpose general psychiatric ward can be economically increased by including former patients in the activities of the ward as day patients. The ward milieu is improved, tension decreases, optimism rises among inpatients and adjustment of patients returning to the community is made more comfortable. It is doubtful that the unstructured program prevented rehospitalization or that it could substitute for inpatient treatment. Since there were negligible costs and few problems there is justification for operating such a program in conjunction with an impatient service."

(48)

Testoff, Arthur, Levine, Eugene, Ph.D., and Siegel, Stanley.
"Analysis of Part-Time Nursing in General Hospitals."
Hospitals, Journal of the American Hospital Association, Vol. 37, No. 17, September 1, 1963.

Field: nursing.
Application: utilization.

Part-time employment of professional nurses is generally accepted in hospitals; according to the results of this survey, more than 80 percent of the 5,372 short-term general hospitals in the United States employ such nurses.

"The ratio of part-time to full-time nurses is rising and is likely to continue to rise in the immediate future. Today the ratio stands at one part-time general duty nurse for every two full-time general duty nurses . . . Part-time nurses contribute roughly one-fifth of the total nursing service available in short-term general hospitals.

"A part-time nurse is roughly equivalent to one-half of a full-time nurse in terms of average number of eight-hour days worked per year, although the number of days worked per year varies greatly among part-time nurses."

(49)

Jeanne Thune.
"Retraining Senior Citizens for New Careers in Community Service."
Mind Over Matter (published by the Tennessee Department of Mental Health), Vol. 9, No. 1. March 1964, pp. 16–19.

Field: volunteers.
Application: training.

This article is an informal report of the first two training sessions of the Training Institute in Community Service, Nashville, Tennessee. The training institute is a pilot project of Senior Citizens, Inc., Nashville, and the Tennessee State Department of Public Health, financed by an NIMH grant.

This grant provides for five 12-week training sessions over a three-year period. Ten to 15 senior citizens participate in each session. Participants were high school graduates, alert and healthy, had a past history of community service, and an interest in continuing community service. The first institute was directed primarily at preparing participants directing and organizing services for the aging. Six graduates decided to go into this type of work.

The second session provide more flexible training, since the 13 participants had varied notions on how to be of service. Three went into senior center work, one organized tutoring service, another organized a resocialization program in a state mental hospital.

(50)

Zussman, Leon, and Linn, Louis.
"The Family Doctor's New Role on the Treatment Team."
American Journal of Psychiatry, Vol. 120, No. 6, December 1963, pp. 553–560.

Field: general practice.
Application: utilization.

This study discusses the role of the physician in the mental health field since the development of psychopharmacology. By maintaining the psychosomatic approach and utilizing the new drugs, the family doctor can effectively treat mental illness in his patients. Hospitalization is not required and the patient can retain family and social ties in the community while receiving the guidance, support and care of his family physician. This community level treatment would ordinarily be directed by a psychiatric consultant who would help select suitable cases for this approach and guide the doctor in selecting proper medications, and in learning the techniques of supportive psychotherapy. This technique is most successful in the treatment of late-life depressive reactions in patients who live in a supporting family milieu. Younger patients with emotional problems and schizophrenics do not respond to this treatment if more than drugs are needed to resolve the difficulty.

The authors indicate the great therapeutic potential of the family physician and the means by which he can be utilized in the treatment of mental illness in the community. As emphasis on noninstitutional care continues, the family physician will become a figure of increasing importance in the field of mental health.

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